13th

APMEC

Asia Pacific Medical Education Conference

Education to Healthcare:
Contextualising Learning into Practice
Trends · Issues · Priorities · Strategies

13-17 January 2016

Cover design by
Goh Shu Wen
Medical Undergraduate Year 5
Yong Loo Lin School of Medicine
National University of Singapore

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SUNDAY 17 JANUARY 2016

Dear Colleagues,

The Organising Committee of APMEC 2016 and the Centre for Medical Education Unit (CenMED), Yong Loo Lin School of Medicine, National University of Singapore, National University Health System, warmly welcome you to the 13th Asia Pacific Medical Education Conference (APMEC) from 13th to 17th January 2016 at the National University of Singapore, Singapore.

We have specially chosen our theme as "Education to Healthcare: Contextualising Learning into Practice – Trends • Issues • Priorities • Strategies (TIPS)". The aim of the conference is to share our experiences as educators, and learn from experts in medical and healthcare professional education some of the latest ideas, and best practices adopted internationally.

The Asia Pacific Medical Education Conference has grown and strengthened over the years. It is now in its 13th year attracting participants, not only from the Asia-Pacific region, but also from around the globe. For our 12th APMEC 2015, we had more than 1,100 medical and healthcare professionals from over 46 countries. We hope to see an even stronger participation in 2016. As with previous APMECs, we have invited distinguished medical and healthcare professional educators to share their experiences, expertise and wisdom at the 2016 conference.

On behalf of the Organising Committee, it gives me great pleasure to welcome you to the 13th APMEC 2016.

With best wishes,

Dr Dujeepa D. Samarasekera
Chairman, Organising Committee
13th APMEC 2016

Director, Centre for Medical Education (CenMED)
Yong Loo Lin School of Medicine
National University of Singapore
National University Health System
Singapore

Venue : Grand Copthorne Waterfront Hotel, Level 3, 392 Havelock Road, Singapore 169663

Wednesday 13ᵗʰ January 2016

Full Day (8.30am – 5.00pm)
Essential Skills in Medical Education (ESME) Course (Session 1) *Ronald M Harden, Matthew C. E. Gwee, Dujeepa D. Samarasekera, Zubair Amin and Tan Chay Hoon* Venue: Cardinal Room
(9.00am – 4.00pm) **Fundamentals in Leadership and Management in Education (FLAME) Course (Session 1)** *Paul Jones, Kirsty Forrest and Claire L Vogan* Venue: Falcon Room

AM (8.00am — 12 noon)	PM (1.00pm — 5.00pm)
W1A1: Assessing Teacher Performance *John Norcini* Venue: Paradiso Room	**W1P1: Workplace Based Assessment – Evidence Based Practices** *John Norcini* Venue: Paradiso Room
W1A2: How to Prepare Your Students for Team-Based Learning and Support Them Through the Process *Preman Rajalingam, Claire Ann Canning, Wong Teck Yee, and Naomi Low-Beer* Venue: Galleria I Room	**W1P2: Using Mind Maps as a Teaching and Learning Tool to Enhance Clinical Relevance and Promote Student Engagement** *Indika Karunathilake* Venue: Galleria I Room
W1A3: Tips and Tricks for Successfully Publishing Scholarly Work in an International Journal on Medical Education *Peter GM de Jong and Julie K Hewett* Venue: Galleria II Room	**W1P3: Healthcare in the 21st Century – Envisioning the Professional for Tomorrow's Healthcare (PTH)** *Nicholas Chew, Yvonne Ng and Winnie Teo Li-lian* Venue: Galleria II Room
W1A4: Mentoring for Success in Your Educational Programmes *Shirley Ooi, Marion Aw, Clement Tan and Raymond Goy* Venue: Swallow Room	**W1P4: Enhancing and Enriching Learning in TBL Through Effective Facilitation** *Ha Tam Cam and Sandy Cook* Venue: Swallow Room
W1A5: Interprofessional Education (IPE) - Bridging the Gap between Education and the Workplace *Wong Mun Loke, Calvin Ho, Chui Wai Keong and Nicola Ngiam* Venue: Galleria III Room	**W1P5: TIPS to Incorporate Social Responsibility / Accountability into the Medical School Curriculum** *James Rourke* Venue: Galleria III Room

Venue : Grand Copthorne Waterfront Hotel, Level 3, 392 Havelock Road, Singapore 169663
Unless otherwise stated

Full Day (8.30am – 5.00pm)
Research Essential Skills in Medical Education (RESME) Course (Session 1) *Charlotte Ringsted, Albert Scherpbier and Elise Paradis* Venue: Cardinal Room
(9.00am – 4.00pm) **Change, Adaptability, Leadership and Management (CALM) Course (Session 1)** *Judy McKimm and Paul K Jones* Venue: Falcon Room
(9.00am – 5.00pm) **W2A5: Using SPSS for Data Analysis** *Chan Yiong Huak* Venue: Computer Lab 2, Level 8, Tahir Foundation Building (Block MD1), National University of Singapore, 12 Science Drive 2, Singapore 117549

AM (8.00am — 12 noon)	PM (1.00pm — 5.00pm)
W2A1: A Glimpse Behind the Curtain: Tips for Publishing in Health Professional Education Journals *Kevin Eva* Venue: Paradiso Room	**W2P1: Using the Clinical Reasoning Literature to Improve the Use of Subjectivity in Assessment** *Kevin Eva* Venue: Paradiso Room
W2A2: ASPIRE Assessment Workshop *Katharine Boursicot, Trudie Roberts and Dujeepa D Samarasekera* Venue: Galleria I Room	**W2P2: AMEWPR Workshop - What is Involved in Undergoing Accreditation?** *Michael Field, Pete Ellis, Xian Wang, Nobuo Nara, Ki-Young Lim, Tserenkhuu Lkhagvasuren and David Gordon* Venue: Galleria I Room
W2A3: Supporting Educators to Engage in Research in Medical Education (RIME) in the Asia Pacific Region *Gominda Ponnamperuma and Hiroshi Nishigori* Venue: Galleria III Room	**W2P3: It's Not the Same Everywhere: Designing Professionalism Curriculum With Culture in Mind** *Ming-Jung Ho* Venue: Galleria III Room
W2A4: Making Sense of Research on Using Technology to Enhance Teaching and Learning *John E Sandars and Poh-Sun Goh* Venue: Swallow Room	**W2P4: Strength-Based Approaches to Professionalism** *Anita Ho, Linying Hu, Nandini Kumar and Thirumoorthy Thamotharampillai* Venue: Swallow Room

Venue: University Cultural Centre, National University of Singapore

Level 1
- Registration & Help Desk
- Trade Exhibition
- Refreshment
- Secretariat

Level 2
- Best Abstract for Poster Presentation
- e-Poster Presentation
- Refreshment

Level 3
- Slides Upload Counter
- Prayer Rooms

Day 1: Friday 15th January 2016

TIME	PROGRAM				VENUE
7.30am	**Registration**				Foyer L1
8.30am - 8.45am	**Opening Ceremony** **Welcome Address** *Dr Dujeepa D. Samarasekera* *Chairman, Organising Committee 13th APMEC 2016*				Hall
8.45am - 9.15am	**Plenary Lecture 1 – National Assessment Programs and the Quality of Care** *John Norcini, USA* *Moderator: Hooi Shing Chuan, Singapore*				
9.15am - 9.45am	**Opening Ceremony Reception**				Foyer L1
9.45am - 11.15am	**AMEWPR Symposium on Enhancing Quality in Medical Education Through Accreditation** *David Ellwood, Australia* *Ducksun Ahn, South Korea* *Chi-Wan Lai, Taiwan* *Alfaretta Reyes, Philippines* *David Gordon, France* *Moderator: Michael Field, Australia*	**Panel Discussion (PD)** **PD 1 – Caring for Students and Teachers – Preventing Burnout** **Engagement, Psychological Safety and Burnout** *Nicholas Chew, Singapore* **Four Phenotypes of Burnout: A Student's Viewpoint** *Nigel Fong, Singapore* **Systematic Care for At-Risk Students: The Application of Holistic Approach Concept** *Danai Wangsaturaka, Thailand*	**Free Communications (FC)** **FC 1 – Faculty Development** **Statistical Innumeracy of Physicians and Inadequate Presentation of Evidence in Educational Programs** *Michael Allen, Canada* **The Use of Whatsapp to Create "Mobile Learning Bubbles"** *Teoh Chia Meng, Singapore* **Medical and Physiotherapy Undergraduates' Perception on the Importance of Roles and Qualities of a Medical Teacher** *Akalanka Hettihewa, Sri Lanka*	**E-Poster Presentation – Session 1A & 1B**	AMEWPR Symposium-Hall PD 1-Theatre FC 1-Function Room 1, L1 E-Poster Presentation Session 1 - Function Room 2, L2 and Foyer L2

9.45am - 11.15am *(Continued from previous page)*		**Care in the Learning Environment** *Jørgen Nystrup, Denmark* *Moderator: Marie-Veronique Clement, Singapore*	**'World Café–Like' Faculty Development Yields More Purposeful Products and Desired Educational Outcomes: A Short-Term Action Research Project** *Ikuo Shimizu, Japan* **Actively Shaping Education and Clinical Teaching Tasks: Job Crafting by Clinical Teachers** *Joost Van Den Berg, The Netherlands* **Professionalism: Developing Your Own Teaching and Faculty Development Modules to Suit Your Multi-Cultural Context** *Amal Khidir, Qatar*		AMEWPR Symposium-Hall PD 1-Theatre FC 1-Function Room 1, L1 E-Poster Presentation Session 1 - Function Room 2, L2 and Foyer L2
	ASPIRE Board Meeting (by invitation only) (10.00am-11.45am)				Celadon Room, Museum, L1
11.30am - 1.00pm	**Free Communications (FC)**			**Interactive Symposium - Better Judgement: What Does Training Assessors About Judgement Biases Really Deliver?** *Lambert Schuwirth, Australia*	FC 2-Hall FC 3-Theatre FC 4-Function Room 1, L1 Interactive Symposium-VIP Lounge, L2
	FC 2 – Teaching & Learning 1 **Introducing Non Verbal Communication in Medical Training Differences in Learning Among Students, Junior Doctors and Senior Acute Nurses** *Ture Larsen, Denmark* **Effectiveness of Near-Peer Teaching in Learning Critical Appraisal Skills** *Indah Widyahening, Indonesia*	**FC 3 – Assessment** **Seven Years of Experience with Workplace-Based Assessment in High Stakes Testing for International Medical Graduates: Practice, Research and Implications for Future Development** *Liz Farmer, Australia* **Assessing Reasoning and Decision Making Skills: Using SCT and EMQ. A Pilot for Urology Residents** *Sheilla Pinjani, Pakistan*	**FC 4 – General Education 1** **Educational Environment of Three Medical Schools in Malaysia, Singapore and China** *Arokiamary Bharathy, Malaysia* **Biomedical Common Year 1 Programme: What Factors Predict Career Intention to be Doctor?** *Marcus Henning, New Zealand*		

11.30am - 1.00pm *(Continued from previous page)*	**How Psychiatry Residents Perceive the Quality of Supervision for New Cases in the Ambulatory Setting - A Preliminary Survey** *Tan Lay Ling, Singapore* **A Novel Method of Generating Medical Educational Material: Identifying Key Terms, Phrases, and Logical Structures in Clinical Case Presentations to Enhance and Accelerate Student Learning** *Alberto Gayle, Japan* **Comparing and Contrasting Perceived Value and Acceptability of and Preparedness for Simulation Based Medical Teaching among Medical Students in Different Clinical Years** *Min Sein Yee, Malaysia* **Near Peer Teaching of Surgical Physical Examination Skills in a Large Academic Medical Centre in Asia** *Gan Ming Jin Eugene, Singapore*	**First-Year Medical Students' Perceptions of Using Simman® in Clinical Skills Examination Session** *Meenakshi Swamy, United Kingdom* **Continuous Assessment Scores: Do They Predict Performance in the Pre-Clinical Professional Examination?** *Sarmishtha Ghosh, Malaysia* **Is There a Need for Introducing Open Book Assessment Method in First-Year Medical Curriculum? A Preliminary Study** *Rajajeyakumar Manivel, India* **Designing Situational Judgement Scenarios to Support the Development of Non-Technical Skills in Post Graduate Medical Education: Evaluation of a Training Intervention** *Amy Aitkenhead, United Kingdom*	**Combating Diagnostic Error: Testing a Simplified Deliberate Reflection Technique** *Lim Tow Keang, Singapore* **Implicit Leadership Theories and Followership Informs Understanding of Doctors' Professional Identity Formation: A New Model** *Judy McKimm, United Kingdom* **Can Present Medical Education Overcome the Influence of Socio-Economic Disparities on Educational Outcomes?** *Suneth Agampodi, Sri Lanka* **Challenges in End-Of-Life (EOL) Conversations among Intensive Care Unit (ICU) Nurses** *Poi Choo Hwee, Singapore*		FC 2-Hall FC 3-Theatre FC 4-Function Room 1, L1 Interactive Symposium-VIP Lounge, L2
	Judging-Best Abstract for Poster Presentation (11.30am-2.00pm)			Foyer L2

1.00pm - 2.00pm	Lunch				Foyer L1
	ESME Course – Feedback with Faculty – Session 2				Function Room 1, L1
	RESME Course – Feedback with Faculty – Session 2				VIP Lounge, L2
	FLAME Course & CALM Course – Feedback with Faculty – Session 2				Theatre
2.00pm - 3.00pm	**Symposium 1 - Aligning Curriculum to Future Practice** **Clinical Skills of the Future** *Trudie Roberts, United Kingdom* **Back to The Basics: Education Ideas from Movies, Youtube and Books** *Lau Tang Ching, Singapore* **21st Century Skills and The Outcome-Based Curriculum** *Prasit Watanapa, Thailand*	**Symposium 2 - Social Responsibility and Accountability in HPE** **How Socially Accountable is NUS Medicine? Applying Training for Health Equity Network's (THEnet) Evaluation Framework** *Gerald Koh, Singapore* **Social Accountability of Medical Schools: From Learning to Practice** *James Rourke, Canada* **Social Responsibility and Accountability of Health Professional Schools to Meet Society's Healthcare Needs** *Lam Tai Pong, Hong Kong S.A.R.*	**Symposium 3 - Developing Conducive Learning Environment** **Developing Standards for Behavioural and Social Sciences Education in Medical Schools in India** *Y S Sivan, India* **Learning Medicine through Community Engagement in the Rural Context** *Roger Strasser, Canada* **Why a Well-Resourced Student Affairs Team is Critical for a Conducive Learning-Environment in Medical School?** *Marie-Veronique Clement, Singapore*	**E-Poster Presentation – Session 2**	Symposium 1-Hall Symposium 2-Theatre Symposium 3-Function Room 1, L1 E-Poster Presentation Session 2-Function Room 2, L2 and Foyer L2
	Moderator: Trudie Roberts, United Kingdom	*Moderator: James Rourke, Canada*	*Moderator: Hooi Shing Chuan, Singapore*		

3.15pm - 3.45pm	**Plenary Lecture 2 – Practice What You Preach: Education for Capability and a Blue Ocean Strategy** *Ronald M Harden, United Kingdom* *Moderator: Matthew C. E. Gwee, Singapore*			Hall
3.45pm - 4.15pm	**Coffee Break**			Foyer L1
4.15pm - 5.15pm	**Symposium 4 - Research in Medical Education in the Asia Pacific Region: Challenges and Possibilities** *Gominda Ponnamperuma, Sri Lanka* *Danai Wangsaturaka, Thailand* *Ming-Jung Ho, Taiwan* *Hiroshi Nishigori, Japan* *Sun Kim, South Korea* *Moderators: Hiroshi Nishigori and Gominda Ponnamperuma*	**Symposium 5 - Developing Learners for Future Inter-professional Collaborative Practice** **Developing Learners for Future Interprofessional Collaborative Practice** *Chow Yeow Leng, Singapore* **Approaches to Implement IPE – the NUS Experience** *Christine Teng Bee Choon, Singapore* **Credentialing Organizations for Interprofessional Education: Structure, Process and Outcomes** *Kathy Chappell, USA* *Moderator: Keith Lim, Singapore*	**Symposium 6 - Developing Scholarship in Using Technology to Enhance Teaching and Learning** *John E Sandars, United Kingdom* *Poh-Sun Goh, Singapore* *Moderator: Poh-Sun Goh, Singapore*	**E-Poster Presentation – Session 3**	Symposium 4-Hall Symposium 5-Theatre Symposium 6-Function Room 1, L1 E-Poster Presentation Session 3-Function Room 2, L2 and Foyer L2
5.30pm - 6.00pm	**Plenary Lecture 3 – Into the Woods: Meeting the Challenge of Clinical Culture** *Ming-Jung Ho, Taiwan* *Moderator: Alfred Kow, Singapore*			Hall
6.45pm - 9.00pm	**Conference Dinner**			Riverfront Ballroom, Level 2, Grand Copthorne Waterfront Hotel
End of Day 1				

Day 2: Saturday 16ᵗʰ January 2016

TIME	PROGRAM				VENUE
8.00am - 8.30am	**Special Interest Group (SIG)**		**Free Communications (FC)**	**E-Poster Presentation – Session 4**	SIG 1-Hall SIG 2-Theatre FC5- Function Room 1, L1 E-Poster Presentation Session 4- Function Room 2,
	SIG 1 – Role of AMEWPR in Developing Accreditation Standards for the Western Pacific Region *Ducksun Ahn, South Korea* *Theanne Walters, Australia*	**SIG 2 – Social Responsibility and Accountability in Health Professional Education** *James Rourke, Canada*	**FC 5 – Wellness of Students and Teachers** **Investigation of Mental Health Related Attitude Among Nursing Students: Description and Influential Factors** *Geng Xiaowei, China* **Stress, Anxiety, Depression and their Associated Factors Among Health Care Students** *Heethal Jaiprakash, Malaysia* **Self-Perceived Stress and Its Association with Working Efficiency of Junior Doctors During Three Saudi Postgraduate Residency Training Programs** *Hamza Abdulghani, Saudi Arabia*		
	Asia Pacific Collaboration in Medical Education Meeting (by invitation only) (8.00am-8.45am)				Celadon Room, Museum, L1
8.45am – 9.00am	**Address by President, 67th Medical Society** *Mr Wong Wen Kai* *Yong Loo Lin School of Medicine, National University of Singapore*				Hall
9.00am – 9.30am	**Plenary Lecture 4 – From Education to Future Practice: Trends, Issues, Priorities, Strategies (TIPS)** *Trudie Roberts, United Kingdom* *Moderator: Lau Tang Ching, Singapore*				Hall
9.30am – 10.00am	**Coffee Break**				Foyer L1

10.00am - 11.45am	Free Communications (FC)			E-Poster Presentation – Session 5A & 5B	FC 6-Hall
	FC 6 – Teaching & Learning 2	**FC 7 – Curriculum**	**FC 8 – General Education 2**		FC 7-Theatre
	Obstetrics Emergency Training for Midwives In Kampong Chhnang, Cambodia *Lek Sze Min, Singapore*	**Survey on Clinical Skills Phase Training Scheme of Chinese Innovative 8-Years Medical Doctor Degree Course** *Li Wei, China*	**Utility of SBAR as an Interprofessional Communication Tool: Perception of Clinical and Administrative Healthcare Professionals** *Lee Sin Yi, Singapore*		FC 8- Function Room 1, L1
	Taking Anatomy outside the Dissection Laboratory: Hand-Held Ultrasound Devices for Self-Directed Learning of Living Anatomy *Anjali Bhagra, United States of America*	**Accreditation of Medical Education: Perspectives of Stakeholders** *Marivic Amigable-Villamor, Philippines*	**Delivering on Social Accountability: Canada's Northern Ontario School of Medicine** *Roger Strasser, Canada*		E-Poster Presentation Session 5- Function Room 2, L2 and Foyer L2
	A Longitudinal Inter-Professional Education Community (LIPEC) Programme: A Preliminary Study to Explore Factors Influencing Nursing Students' Participation *Lau Siew Tiang Lydia, Singapore*	**Adapting Western Communication Models to the Asian Context – Lessons for Transfer of Curricula across Continents** *John Ciaputa, United Kingdom*	**Medical Interns of the Royal Thai Air Force and their Perspective Towards Future Medical Career: Staying or Leaving?** *Patawee Na Bangxang, Thailand*		
	Traditional Microscopy for Teaching-Learning in Histology Practical in Undergraduate Medical Education in Bangladesh- A Student and Teacher Perspective *Rukshana Ahmed, Bangladesh*	**Moral Competence Development of Medical Students: A Cross-Sectional Study in Two Countries** *Sunčana Kukolja Taradi, Croatia* **How to Review a Medical Curriculum** *Richard Hays, Australia*	**The Complex Relationship between Case Complexity and Shared Decision-Making in Non-Acute Interprofessional Teams** *Ong Yu Han, Singapore*		

10.00am - 11.45am *(Continued from previous page)*	**Mandala Making for Assessing Medical Student Well-being** *Julie Chen, Hong Kong S.A.R.* **Adaptation of Flipped Classroom to Faculty Induction Program: Conducting A Mini CEX** *Koh Kwong Fah, Singapore* **"Just Tell me What I Need to Know to Pass the Exam!" Can Flipped Lectures Overcome Passivity?** *Diane Kenwright, New Zealand*	**What is the Role of Curriculum Committee on Simulation Program Development?** *SH Leung, Hong Kong S.A.R.* **A Practical Medical Curriculum for Under Resourced Situations: Experience of Nile College, Sudan** *Zainalabdin Abdelrahim Karrar, Sudan*	**Factors that Affect Students' Overall Ratings of Medical School Courses** *Su Jin Chae, South Korea* **The Academic Progress Portal: Catching Students Before They Fail** *Scott Helf, United States of America* **How Good is Good Enough?** *Nicola Ngiam, Singapore*		FC 6-Hall FC 7-Theatre FC 8- Function Room 1, L1 E-Poster Presentation Session 5- Function Room 2, L2 and Foyer L2
	AMEWPR Advisory Board meeting (by invitation only) (10.00am - 11.45am)				Celadon Room, Museum, L1
11.45am - 1.15pm	**Panel Discussion (PD)**				PD 2-Hall PD 3-Theatre PD4- Function Room 1, L1
	PD 2 – Aligning Assessment to the Needs of Professional Practice **Experience of Phase III Medicine Programme, NUS** *Derrick Aw, Singapore* **Workplace Based Assessment for Undergraduates: What Do They Achieve?** *Katharine Boursicot, Singapore* **Workplace Based Assessment for International Medical Graduates in Australia** *Liz Farmer, Australia*	**PD 3 – Professionalism in Challenging Environments** **Challenge of Hospital Accreditation to Professionalism** *Ming-Jung Ho, Taiwan* **Managing with Adverse Events in Medical Practice - The Challenge of Disclosing Adverse Outcomes** *T Thirumoorthy, Singapore* **Professionalism: Philosophy Collides with Reality** *Alastair Campbell, Singapore*	**PD 4 – Commodification of Medical Education** **Commodification of Medical Education - The Good, The Bad and The Ugly** *Tan Chay Hoon, Singapore* **A Case Study from Australia** *Ian Frank, Australia* **The Commodification of Medical Education: Rewards, Repercussions and Responsibilities** *Vishna Devi V Nadarajah, Malaysia*		

11.45am - 1.15pm *(Continued from previous page)*	**The Development of Advanced Practice Nurse OSCE as a Certification Requirement in Singapore** *Karen Koh, Singapore* *Moderator:* *John Norcini, USA*	**How Can Altruism Survive in This Super-Capitalistic Era?** *Hiroshi Nishigori, Japan* *Moderator:* *Marion Aw, Singapore*	**Mitigating the Negative Impacts** *Ardi Findyartini, Indonesia* *Moderator:* *Kevin Eva, Canada*	PD 2-Hall PD 3-Theatre PD4- Function Room 1, L1
1.15pm - 2.15pm	**Lunch**			Foyer L1
	E-Poster Presentation – Session 6			Function Room 2, L2 and Foyer L2
	ESME Course – Feedback with Faculty – Session 3			Function Room 1, L1
	RESME Course – Feedback with Faculty – Session 3 *(Note: This session will be from 1.15pm to 3.15pm)*			VIP Lounge, L2
	FLAME Course & CALM Course – Feedback with Faculty – Session 3			Theatre
2.15pm - 3.15pm	**Symposium 7 - Developing Collective Competence – How to Make it Work** **Just What is Collective Competence? A Newbie's Perspective** *Nigel Tan, Singapore* **No More Me Tarzan, You Jane But Lets Fly Higher Together in the Sky** *Sophia Ang, Singapore* **Collective Competence in Interprofessional Continuing Education** *Lawrence Sherman, USA* *Moderator:* *Derek Soon, Singapore*	**Symposium 8 - Using Simulated Patients to Enhance your Curriculum** *Nicola Ngiam, Singapore* *Victor Loh, Singapore* *Manjari Lahiri, Singapore* *Liaw Sok Ying, Singapore* *Moderator:* *Nicola Ngiam, Singapore*	**Symposium 9 - Faculty Development to Improve Quality of Patient Care** **Begin with the End in Mind: Faculty Drives Patient Care Improvement Education** *Tay Sook Muay, Singapore* **Do Investments in Faculty Development Result in Better Patient Care?** *Raymond Ngo, Singapore* **UPHR-JFSM Approach to Faculty Development: Cascaded to Quality Care by Students and Resident Trainees** *Harivelle Charmaine Hernando, Philippines* *Moderator:* *Shirley Ooi, Singapore*	Symposium 7-Hall Symposium 8-Theatre Symposium 9-Function Room 1, L1

3.15pm - 3.45pm	**Coffee Break**	Foyer L1
3.45pm - 4.15pm	**Plenary Lecture 5 - Continuous Quality Improvement: From Education to Clinical Care** *Ducksun Ahn, South Korea* *Moderator: Koh Dow Rhoon, Singapore*	Hall
4.15pm - 4.45pm	**Plenary Lecture 6 - Scholarship in Health Professional Education: Finding Your Niche** *Kevin Eva, Canada* *Moderator: Dujeepa D. Samarasekera, Singapore*	Hall
4.45pm - 5.00pm	**Award Presentation**	Hall
5.00pm - 5.15pm	**Closing Ceremony**	Hall
5.15pm	**End of Conference**	

POST-CONFERENCE COURSES AND WORKSHOPS

Venue : Tahir Foundation Building, Block MD1, NUS Yong Loo Lin School of Medicine,
12 Science Drive 2, Singapore 117549

Centre for Translational Medicine (CeTM), Block MD6, NUS Yong Loo Lin School of Medicine,
14 Medical Drive, Singapore 117599

Sunday 17th January 2016

AM (9.00am — 12.30pm)
Essential Skills in Medical Education (ESME) Course (Session 4)   *Ronald M Harden, Matthew C. E. Gwee, Dujeepa D. Samarasekera, Zubair Amin and Tan Chay Hoon*   Venue: Learning Room 01-01A, Level 1, MD6
Fundamentals in Leadership and Management in Education (FLAME) Course (Session 4)   *Paul Jones, Kirsty Forrest and Claire L Vogan*   Venue: Multipurpose Room 1, Level 3, MD1
Change, Adaptability, Leadership and Management (CALM) Course (Session 4)   *Judy McKimm and Paul K Jones*   Venue: Multipurpose Room 2, Level 3, MD1

W3A1: IAMSE Symposium: Teaching of Sciences in Health Professional Education: Updating the Learning Strategies
 • **Student Centred Learning in the Biomedical Sciences**
   Matthew C. E. Gwee, Singapore
 • **Technology Enhanced Learning to Change the Learning Experience of Students**
   Peter GM de Jong, USA
 • **Lessons Learned from Implementing Team Based Learning in Science Education**
   Sandy Cook, Singapore
 • **Formative and Summative Assessment in the Biomedical Sciences**
   Vaughan Kippers, Australia
 	
 General discussion
 	
 Moderator: Peter GM de Jong, USA
 	
 Venue: Smart Classroom, Level 4, MD6

W3A2: Applying Technology to Improve the Quality of Assessment in High Stakes Testing   *Ian Frank and Liz Farmer*   Venue: Learning Room 01-02, Level 1, MD6
W3A3: Communications Skills + Presentation Skills = Great Education   *Lawrence Sherman and Kathy Chappell*   Venue: Learning Room 01-01B, Level 1, MD6
W3A4: Developing and Assessing Resilience in Medical and Healthcare Professionals   *Máire Kerrin and Amy Aitkenhead*   Venue: Multipurpose Room 3, Level 3, MD1

Chairman	Dr Dujeepa D. Samarasekera
Member	Prof Matthew C. E. Gwee
Secretariat	Ms Lee Su Mei
	Dr Lee Shuh Shing
	Ms Emily Loo
	Ms Lee Ai Lian
	Mr Yeo Su Ping
	Ms Geraldine Ang
	Ms Jasmine Ho
	Ms Beatrice Li

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http://medicine.nus.edu.sg/cenmed/apmec13

PLENARY SPEAKERS

Ducksun **Ahn**, South Korea
Kevin **Eva**, Canada
Ronald M **Harden**, United Kingdom
Ming-Jung **Ho**, Taiwan
John **Norcini**, USA
Trudie **Roberts**, United Kingdom

INTERNATIONAL FACULTY

Amy **Aitkenhead**, United Kingdom
Kathy **Chappell**, USA
Peter GM **de Jong**, USA
Pete **Ellis**, New Zealand
David **Ellwood**, Australia
Liz **Farmer**, Australia
Michael **Field**, Australia
Ardi **Findyartini**, Indonesia
Kirsty **Forrest**, Australia
Ian **Frank**, Australia
David **Gordon**, France
Harivelle Charmaine **Hernando**, Philippines
Julie K **Hewett**, USA
Linying **Hu**, People's Republic of China
Paul K **Jones**, United Kingdom
Indika **Karunathilake**, Sri Lanka
Máire **Kerrin**, United Kingdom
Sun **Kim**, South Korea
Vaughan **Kippers**, Australia
Nandini **Kumar**, India
Chi-Wan **Lai**, Taiwan
Tai Pong **Lam**, Hong Kong S.A.R.
Ki-Young **Lim**, South Korea
Tserenkhuu **Lkhagvasuren**, Mongolia
Judy **McKimm**, United Kingdom
Vishna Devi V **Nadarajah**, Malaysia
Nobuo **Nara**, Japan
Hiroshi **Nishigori**, Japan
Jørgen **Nystrup**, Denmark
Elise **Paradis**, Canada
Gominda **Ponnamperuma**, Sri Lanka
Alfaretta Luisa **T. Reyes**, Philippines
Charlotte **Ringsted**, Denmark
James **Rourke**, Canada
John **Sandars**, United Kingdom
Albert **Scherpbier**, Netherlands
Lambert **Schuwirth**, Australia
Lawrence **Sherman**, USA
Y.S. **Sivan**, India
Roger **Strasser**, Canada
Claire L **Vogan**, United Kingdom

Theanne **Walters**, Australia
Xian **Wang**, People's Republic of China
Danai **Wangsaturaka**, Thailand
Prasit **Watanapa**, Thailand

LOCAL FACULTY

Zubair **Amin**
Sophia **Ang** Bee Leng
Derrick **Aw** Chen Wee
Marion M **Aw**
Katharine **Boursicot**
Alastair **Campbell**
Claire Ann **Canning**
Chan Yiong Huak
Nicholas **Chew**
Chow Yeow Leng
Chui Wai Keung
Marie-Veronique **Clement**
Sandy **Cook**
Fong Jie Ming Nigel
Poh-Sun **Goh**
Raymond **Goy**
Matthew CE **Gwee**
Ha Tam Cam
Anita **Ho**
Calvin **Ho**
Gerald Choon-Huat **Koh**
Karen **Koh**
Manjari **Lahiri**
Lau Tang Ching
Liaw Sok Ying
Victor **Loh**
Naomi **Low-Beer**
Yvonne **Ng**
Nicola **Ngiam**
Raymond **Ngo**
Shirley **Ooi** Beng Suat
Preman **Rajalingam**
Dujeepa D **Samarasekera**
Tan Chay Hoon
Clement Woon-Teck **Tan**
Nigel **Tan**
Tay Sook Muay
Christine **Teng** Bee Choon
Winnie **Teo** Li-lian
T **Thirumoorthy**
Wong Mun Loke
Wong Teck Yee

PLENARY SPEAKERS

Ducksun **AHN**
Professor, College of Medicine,
President, Korean Institute of Medical Education and Evaluation
Republic of Korea

Professor Ducksun Ahn is the President of the Korean Institute of Medical Education and Evaluation and the Vice President of the World Federation of Medical Education. He graduated from Korea University Medical College and received residency training at the University of Toronto. He received ECFMG Education Fellowship at University of California, Los Angeles, European Commission Fellowship of Bioethics, and Australian Endeavor Award Fellowship at the Australian Medical Council. Formerly he was Chair of Department of Medical Education and the Vice-Dean of Korea University Medical School and the President of Korean Society of Medical Education and the Association for Medical Education in the Western Pacific Region.

Kevin **EVA**
Professor
Associate Director and Senior Scientist
Centre for Health Education Scholarship and
Director of Educational Research and Scholarship, Department of Medicine
University of British Columbia
Canada

Dr. Eva is Associate Director and Senior Scientist in the Centre for Health Education Scholarship and Professor and Director of Educational Research and Scholarship in the Department of Medicine at the University of British Columbia. He completed his PhD in Cognitive Psychology (McMaster University) in 2001 and became Editor-in-Chief for Medical Education in 2008. He is visiting professor at the University of Bern (Switzerland) and has consulted broadly around the globe. He co-founded the Maastricht-Canada Masters of Health Professional Education program and is a proud recipient of the MILES Award for Mentoring, Innovation, and Leadership in Education Scholarship from APMEC.

Ronald M **HARDEN**
Professor of Medical Education (Emeritus)
University of Dundee; and
General Secretary and Treasurer
Association for Medical Education in Europe (AMEE)
United Kingdom

Professor Ronald Harden graduated from medical school in Glasgow, UK. He completed training & practised as an endocrinologist before moving to full time medical education.

He is Professor of Medical Education (Emeritus) University of Dundee, Editor of Medical Teacher & General Secretary & Treasurer of the Association for Medical Education in Europe (AMEE). Professor Harden was formerly Teaching Dean & Director of the Centre for Medical Education at the University of Dundee.

He is committed to developing new approaches to curriculum planning, assessment & to teaching & learning. Ideas which he has pioneered include the Objective Structured Clinical Examination (OSCE) which has been universally adopted as a standard approach to assessment of clinical competence, the spiral curriculum & the SPICES model for curriculum planning & models for outcome-based education. He has published more than 400 papers in leading journals. He is co-editor of the best-selling books – A Practical Guide for Medical Teachers, Essential Skills for a Medical Teacher & A Practical Guide to the OSCE.

His contributions to excellence in medical education have attracted numerous awards including the Karolinska Institutet Prize for Research in Medical Education, the Hubbard Award by the National Board of Medical Examiners, the Cura Personalis honour from the University of Georgetown in the USA and recognition by the Kellogg Foundation for his contributions to medical education in South America. In 2009 he was awarded the ASME Richard Farrow Gold Medal, in recognition of the contributions he has made to medical education. In 2010 he was the recipient of the AMEE 2010 Lifetime Achievement Award in recognition of his contributions to medical education & the work of the Association. In 2012 he was awarded an Honorary Doctorate in Medical Education by the International Medical University in Malaysia & an Honorary Doctorate in Medicine of the University of Tampere, Finland.

He was awarded by the Queen the OBE for his services to medical education.

Ming-Jung **HO**
Professor
Department of Medical Education & Bioethics
Vice Chairman of the School of Medicine and
Assistant Dean for International Affairs
National Taiwan University College of Medicine
Taiwan

Dr. Ming-Jung Ho is a professor of the Department of Medical Education & Bioethics, Vice Chairman of the School of Medicine, and Assistant Dean for International Affairs at National Taiwan University College of Medicine. She earned a BA in biological anthropology from Harvard University, an M.D. from University of Pennsylvania, and a D.Phil. in Social Anthropology from University of Oxford. Dr. Ho's academic interest lies in the application of anthropology to medical education. Her research projects on cross-cultural professionalism have garnered awards from Association for Medical Education in Europe, Taiwan Association of Medical Education, and National Science Council of Taiwan.

John **NORCINI**
President and CEO
Foundation for Advancement of International Medical Education and Research
(FAIMER®)
USA

John J. Norcini, PhD has been the President and CEO of the Foundation for Advancement of International Medical Education and Research (FAIMER®) since its inception. Before joining the Foundation, Dr. Norcini held a number of senior positions at the American Board of Internal Medicine. His principal academic interest is in assessment and he has published extensively, lectured and taught in many countries, and is on the editorial boards of several peer-reviewed journals in health professions education. He is an honorary Fellow of the Royal College of General Practitioners and the Academy of Medical Educators. He has received numerous awards including the Karolinska Prize for Research in Medical Education.

Trudie **ROBERTS**
Director, Leeds Institute of Medical Education
University of Leeds
United Kingdom

Professor Roberts graduated from Manchester with a degree in Medicine and a BSc in Anatomy. In 2000 she was appointed Professor of Medical Education at the University of Leeds. She was awarded a National Teaching Fellowship in 2006. She was a council member of the General Medical Council from 2009 until 2012 and Chair of the Association for the Study of Medical Education until July 2013. In September 2013 she took over as President of the Association for Medical Education in Europe. Professor Roberts's main interests and expertise are in the areas of assessment of competence, professionalism, and transitions. She is married to a surgeon, has two children and dreams of owning a Subaru WRX.

INTERNATIONAL FACULTY

Amy **AITKENHEAD**
Work Psychology Group
United Kingdom

Amy is a consultant Psychologist at Work Psychology Group. Amy has experience of leading high profile projects and specialises in the design of bespoke assessment solutions, having particular expertise in selection, development, evaluation and innovation. Amy leads on a number of high profile projects, for example the development of situational judgement tests for selection to the UK Foundation Programme, Public Health and General Practice in Ireland, as well as the development and evaluation of a Selection Centre for entry into Neurosurgical training. Amy is interested in utilising technology to enhance assessment and development solutions and has a particular interest in video based situational judgement scenarios for the development of professional skills (e.g. integrity, resilience, perspective taking), having recently developed an online training tool utilising situational judgement scenarios presented in video format to enhance self-awareness, decision making and conflict management skills in Foundation Doctors. Prior to joining Work Psychology Group, Amy worked for the University of Nottingham assisting on a project examining psychosocial risk management in micro-sized enterprises for the European Agency for Safety and Health at Work. She helped to develop an online interactive risk assessment tool aimed at helping small-sized companies overcome some of the challenges relating to assessing and managing psychosocial risks.

Kathy **CHAPPELL**
Vice President, Accreditation Program and Institute for Credentialing Research
American Nurses Credentialing Center
USA

Dr. Chappell has more than 25 years of experience in clinical practice, administration, education and research. She is responsible for accreditation of organizations providing continuing nursing and interprofessional education; and accreditation of residency and fellowship programs. She directs the Institute for Credentialing Research, analyzing outcomes related to credentialing. She holds a baccalaureate in nursing with distinction from the University of Virginia, a master of science in advanced clinical nursing and a doctorate in nursing from George Mason University. She is a Fellow in the American Academy of Nursing and a Distinguished Scholar & Fellow in the National Academies of Practice.

Peter GM de **JONG**
Editor-in-Chief
IAMSE
USA

Peter de Jong is a staff adviser in Technology Enhanced Learning at the Leiden University Medical Center in The Netherlands. Since 2007 Peter is involved in the International Association of Medical Science Educators (IAMSE), an international organization with a focus on advancing medical education through faculty development while ensuring that the teaching and learning of medicine continues to be firmly grounded in science. He has served the organization as Vice President and in 2009 as Program Chair and Site Host for the first IAMSE Annual Meeting outside North America. Currently he holds the position of Editor-in-Chief of Medical Science Educator, the online journal of IAMSE.

Pete **ELLIS**
Associate Dean, Medical Education and
Professor of Psychiatry
University of Otago, Wellington
New Zealand

After training as a psychiatrist in Wellington, he was appointed Professor and Head of Department in 1994 and Associate Dean for Medical Education in 2012 at the University of Otago, Wellington. His current research interests include affective disorders and suicidal behavior; service delivery; medical education; and the history of psychiatric treatments. He is currently a member of the Medical Education Committee of the Medical Council of New Zealand and Deputy Chair of the Medical School Accreditation Committee of the Australian Medical Council.

David **ELLWOOD**
Professor of Obstetrics & Gynaecology
Griffith University School of Medicine, and
Chair, Medical Schools Accreditation Committee (AMC)
Australian Medical Council (AMC)
Australia

David Ellwood is Professor of Obstetrics & Gynaecology at Griffith University School of Medicine, Queensland, Australia, and Director of Maternal-Fetal Medicine at Gold Coast University Hospital. He is a Director of the Australian Medical Council also chair of the Australian Medical Council's Medical Schools Accreditation Committee, which has responsibility for maintaining the quality of primary medical education programs in Australia and New Zealand. He recently chaired a working group which reviewed and revised the standards for accreditation of primary medical programs, and is currently leading a group which is working on issues around 'Professionalism and Fitness to Practice' for medical students.

E A (Liz) **FARMER**
Professor
Australian Medical Council
Australia

Professor E A (Liz) Farmer is an independent health sector consultant who specializes in health professional education and assessment, accreditation and policy development. Following roles as the Executive Director, Workforce Innovation and Reform at Health Workforce Australia and Dean of Medicine, she joined the Australian Medical Council in 2011 and now serves as Chair Prevocational Standards Accreditation Committee, and Chair Research Committee. The Australian Medical Council is the national accreditation authority for medicine in Australia.

Her special interests include:

• Curriculum and assessment innovation and reform in the health professions
• Performance assessment including workplace-based assessment
• Revalidation
• Accreditation policy and practice

Michael **FIELD**
Emeritus Professor
University of Sydney
Australia

Professor Field is a recently retired nephrologist with a research background in renal physiology. For over 20 years he has been involved in the reform of medical education in Australia, particularly at the University of Sydney, and he was formerly the Chair of the Medical School Accreditation Committee of the Australian Medical Council. He has been active in quality improvement activities at medical schools around the world, and is currently the President of the Association for Medical Education in the Western Pacific Region, a division of the World Federation for Medical Education.

Ardi **FINDYARTINI**
Lecturer in Medical Education
Faculty of Medicine, Universitas Indonesia
Indonesia

Graduated as a medical doctor from Faculty of Medicine Universitas Indonesia in 2002 and has completed her PhD in Medical Education focusing on the clinical reasoning teaching and learning in undergraduate medical programs from the University of Melbourne in 2012. She is a lecturer in Medical Education Department and currently the Head of Medical Education Unit in the faculty. She's been actively involved as the resource person in the faculty development programs at the FMUI and other medical schools in Indonesia. Her current research focuses are clinical teaching, clinical reasoning, curriculum development, interprofessional education and cultural related issues in medical education area.

Kirsty **FORREST**
Professor
Associate Dean, Learning and Teaching
Faculty of Medicine and Health Sciences
Macquarie University
Sydney
Australia

Kirsty moved to Australia in 2013 to be Director of Medical Education at the Australian School of Advanced Medicine at Macquarie University. In 2015 the new Faculty of Medicine and Health Sciences was established and Kirsty was appointed Associate Dean, Learning and Teaching. Prior to this Kirsty had been working in sunny Leeds for 13 years. Her clinical specialities are orthopaedic and spinal anaesthesia. She was the Trusts #NOF champion and a member of the Patient Safety Steering group. Kirsty's Deanery roles included clinical skills, simulation and leadership training. Her University roles included Chair of the Student Selected Components course and the development of the patient safety strand of the MBChB at Leeds University.

Kirsty was the co-opted member for the National Institute of Academic Anaesthesia (NIAA) research council. She has been involved in educational research for 12 years and awarded funding via a University Fellowship and the Higher Education Academy. She is a faculty member and director for the Anaesthetist as Educators workshops at the Royal College of Anaesthetists (RCoA) and also a member of the Anaesthetist as Educator committee at the RCoA.

Kirsty is co-author and editor of a number of best-selling medical textbooks including 'How to teach continuing medical education', 'Essential guide to acute care', 'Professional Practice for Foundation Doctors - Becoming Tomorrow's Doctors', 'Essential guide to educational supervision, in postgraduate medical education' and 'Simulation in Clinical Education'.

Ian **FRANK**
Chief Executive Officer
Australian Medical Council
Australia

Ian Frank joined the newly established Australian Medical Council in 1988 and since 1991 has served as the senior executive and subsequently Chief Executive Officer of the AMC. The Australian Medical Council is the national accreditation authority for medicine in Australia.

His areas of special interests include:

• Development of high quality computer administered and computer adaptive MCQ examinations
• The application of advanced technology to high fidelity clinical assessment
• The development of performance assessment tools, including workplace-based assessment
• Opportunities for collaboration between licensing and examination authorities for the exchange of information and expertise on assessment in medicine.

David **GORDON**
President
World Federation for Medical Education
France

David Gordon is President of the World Federation for Medical Education (WFME). The World Federation for Medical Education is the global organisation concerned with medical education, and is in official partnership with the World Health Organization. WFME is an umbrella organisation for the six world-wide Regional Associations for Medical Education.

After qualifying from the University of Cambridge, Professor Gordon held research, academic and clinical appointments in Leicester, Cambridge and London. He was dean of the medical faculty in Manchester for seven years, and chair of the Council of Heads of Medical Schools in the UK.

Harivelle Charmaine T. **HERNANDO**
Dean, Jonelta School of Medicine, University of Perpetual Help; and
Professor of Anatomy and Anesthesiology, UP College of Medicine
Philippines

Dr. Hernando obtained her Bachelor of Science in Zoology, Medical Degree, Master's in Health Professions Education and PhD in Educational Administration from the University of the Philippines with academic excellence awards. Her Post-Masteral Course in Medical Education was acquired from Harvard Medical School and Harvard Graduate School of Education under the Harvard Macy Program. She also trained in Anesthesiology at the UP-Philippine General Hospital Medical Center, Elias Suorasky Medical Center, Tel Aviv, Israel and University of California Medical Center, Sacramento, California.

Julie K **HEWETT**
Journal Management Support
IAMSE
USA

Julie Hewett, owner of JulNet Solutions, is a graduate of Rochester Institute of Technology with a Bachelors Degree in Entrepreneurial Management. She has over 25 years of office management experience working with small organizations in the services and manufacturing industries. This broad work experience allowed Julie to develop JulNet Solutions, offering management support services to small businesses, entrepreneurs, and eventually professional non-profit associations. Since 1998 Julie has been involved in IAMSE for Association Management and Meeting Planning. In 2010 JulNet Solutions got involved in the production of IAMSE's online journal Medical Science Educator, and her office now offers Editorial Manager Support for the Editor-in-Chief.

Linying **HU**
Deputy Director, Health Law and Medical Ethics Center
Peking University
People's Republic of China

Hu Lin-Ying has a doctorate in philosophy from Renmin University of China (2003). She has joined two research projects in Harvard School of Public Health (2004-2005) and Harvard Faculty of Art and Science (2010-2011) as research fellow. Dr. Hu was Associate Professor of Bioethics/Medical Ethics of Peking University Health Science Center (2003-2015) and Deputy director of Health Law and Medical Ethics Center, Peking University (2010-2015). Hu Lin-Ying's current research interests are bioethics and medical ethics, including ethical issues arose from advanced biomedical technologies, clinical ethics and research ethics. She led and is leading 3 international research projects on research ethics and medical professionalism. She has published one monograph on ethics and over 30 articles in the fields of bioethics and medical ethics.

Paul Kneath **JONES**
Associate Professor
Programme Director – Graduate Entry Medicine Programme
College of Medicine, Swansea University
Wales
United Kingdom

Paul is currently the Programme Director for the Graduate Entry Medicine (GEM) programme at Swansea College of Medicine in the UK. He was also made an Honorary Associate Professor for the College in 2014. He was Deputy Director of Clinical Teaching prior to taking up this post for the GEM course in June 2011. He has a background in clinical examination and consultation skills teaching. He also has a strong background in training, hospital management and leadership, gained primarily from working in senior clinical, advanced practice roles and more recently from running leadership workshops in international conferences in Canada, Ireland, Singapore, Mexico, the UK and Saudi Arabia as well as presenting posters related to medical education in conferences both in Britain and internationally.

Paul teaches clinical examination and communication skills on the Graduate Entry Medicine programme in Swansea as well as on Masters courses in leadership and education. His research interests lie predominantly, but not exclusively, in simulation, assessment and innovative teaching methods. Publications include mental workload measurement during student consultations, social learning theory, the predictive value of self assessed clinical skills in medical students and an evaluation of the use of experiential learning in teaching clinical skills to trainee physicians.

Indika **KARUNATHILAKE**
Director of Medical Education Development And Research Centre (MEDARC)
Faculty of Medicine, University of Colombo
Sri Lanka

Dr. Indika Karunathilake is currently the Director of Medical Education Development And Research Centre (MEDARC), Faculty of Medicine, University of Colombo, Sri Lanka. He has conducted extensive research and authored many publications in medical education and public health. Dr. Indika has been a resource person in Medical Education for many national, regional and international forums. Dr. Indika Karunathilake is the editor-in-Chief of the South East Asian Journal of Medical Education (SEAJME) and President of the Forum of Sri Lankan Medical Educationists (FOSME). He also serves as the Vice President of Asia Pacific Academic Consortium for Public Health (APACPH) and took the initiative in developing the public health education accreditation framework for Asia Pacific.

Máire **KERRIN**
Director
Work Psychology Group
United Kingdom

Máire is a Director of the Work Psychology Group, a research led consultancy specialising in assessment, development and innovation. A Chartered Occupational Psychologist, Máire has worked in Medical Education for the last 15 years collaborating with a range of organisations including Department of Health (UK and Australia), General Medical Council, Health Education England, NHS Education for Scotland, National University of Singapore, UK Medical Royal Colleges (e.g RCS, RCGP, RCOG etc). Previous to her current role, she was a Senior Lecturer in Organisational Psychology at City University, London, Senior Consultant with the Institute for Employment Studies, and Lecturer in Organisational Psychology at the University of Nottingham, UK. She remains a Visiting Lecturer at City University. She publishes widely and has recently co-authored articles on Situational Judgement Tests and Values Based Recruitment. Máire has particular interest in the application of situational judgment scenarios in a development context to enhance professional skills such as self-awareness, decision making and resilience in early career healthcare professionals.

Sun **KIM**
Professor
Department of Medical Education
College of Medicine
The Catholic University
South Korea

Professor Sun Kim graduated from Cologne University in Germany with a PhD degree in educational psychology. Since 2005 she has been the editor-in-chief of Korean Journal of medical education and is currently a member of the organizing committee for Korean Society of Medical Education. Also she is a member of continuing medical education steering committee of the Korean Medical Association. She was a member of accreditation committee for developing standards in Korean Institute of Medical Education and Evaluation from 2003 until 2013. Professor Kim is recognized as one of leading authorities in medical education in Korea and has received numerous awards recognizing her achievements. She has translated many important English medical education books in order to introduce them to Korean medical educators. Professor Kim's main interests and expertise are in the field of curriculum development, teaching and learning method and mentoring for medical students.

Vaughan **KIPPERS**
Senior Lecturer and Chief Anatomist
School of Biomedical Sciences
The University of Queensland
Australia

Vaughan is Senior Lecturer and Chief Anatomist in the School of Biomedical Sciences. He has a PhD in Anatomy, a Graduate Certificate in Higher Education, and was awarded the University Commendation for Excellence in Teaching in 2005. He was Head of Years 1 & 2 in the Graduate-Entry MBBS Program from 2007-2010. Vaughan is a Fellow of the International Association of Medical Science Educators and has served on their Board of Directors. He is Secretary of the Australian and New Zealand Association of Clinical Anatomists and a member of the Australian and New Zealand Association of Health Professional Educators.

Nandini **KUMAR**
Adjunct Professor
Kasturba Medical College
Manipal University
India

Dr. Nandini K. Kumar retired as Deputy Director General Senior Grade from the Indian Council of Medical Research (ICMR), where she was the Program Officer for bioethics, traditional medicine research and for some time for pharmacology and summer studentship for medical undergraduates. She was closely involved in formulation of several ethical guidelines in India and has pioneered bioethics education in India through ICMR. She is a member of international panel of President Obama's Commission for the Study of Bioethical Issues, Advisory Council of Drug Information Association, India, and other nationally important committees. Presently she is Dr. TMA Pai Endowment Chair and Adjunct Professor, Kasturba Medical College, Manipal University and consultant for bioethical issues and traditional medicine research in India and abroad.

Chi-Wan **LAI**
Attending Neurologist
Koo Foundation Sun Yat-Sen Cancer Center
Taiwan

Education:
College of Medicine, National Taiwan University, Taipei, Taiwan
Current Positions:
Chair Professor, Andrew T. Huang's Medical Education Promotion Foundation
Attending Neurologist, Koo's Foundation Cancer Center, Taipei, Taiwan
Experience:
Professor with tenure, Department of Neurology, University of Kansas, School of Medicine, Kansas City, KS
Co-Director, Kansas University Comprehensive Epilepsy Center, University of Kansas Medical Center, Kansas City, KS
Vice-Superintendent, Buddhist Tzu Chi General Hospital, Hualien, Taiwan
Associate Dean, Tzu Chi College of Medicine and Humanities, Hualien, Taiwan
Dean, Tzu Chi College of Medicine
Vice President, Tzu Chi University, Hualien, Taiwan
Executive Secretary, Medical Education Committee, Ministry of Education, Taiwan
Chairman, Medical Education Committee, Ministry of Education, Taiwan
CEO, Taiwan Medical Accreditation Council (TMAC)
Chairman, Taiwan Medical Accreditation Council (TMAC)

Tai Pong **LAM**
Professor
The University of Hong Kong
Hong Kong S.A.R.

Professor Lam is currently an Assistant Dean in Clinical Curriculum and Assessment, Faculty of Medicine and Professor and Chief of Postgraduate Education, Department of Family Medicine & Primary Care, The University of Hong Kong. He is particularly interested in research and scholarship of teaching. He was awarded the University Teaching Fellowship which was the highest honour for teaching at The University of Hong Kong. He pioneered some of the most successful postgraduate programmes for primary care doctors. He has published over 130 peer reviewed articles and many of these in education related journals including Medical Education, Academic Medicine, Medical Teacher and BMC Medical Education.

Ki-Young **LIM**
Professor, M.D., Ph.D.
KSME(Korean Society of Medical Education)
KIMEE (Korean Institute of Medical Education and Evaluation)
Ajou University School of Medicine
Republic of Korea

1982	Graduated Yonsei University Medical College, Seoul
1982-1990	Intern, resident, research fellow at Yonsei University Medical Center
2006	Received Ph.D. at Catholic University Medical College, Graduate School, Seoul
1994-present	Professor at Ajou University School of Medicine, Dept. of Psychiatry and Dept. of Medical Humanities and Social Medicine
2010-present	Director, Medical Education Accreditation Services, Korean Institute of Medical Education and Evaluation
2015-present	Vice President (President Elect), The Korean Society of Medical Education
2010-2014	Dean, Ajou University School of Medicine

Tserenkhuu **LKHAGVASUREN**
Professor, ScD., Mongolian Academy of Medical Sciences
President, Health Sciences University of Mongolia, and
President, Consortium of Mongolian Universities and Colleges
Mongolia

Professional and educational experience:

1972-1978	Student, Medical Institute of Mongolia, Ulaanbaatar (UB)
1972-1979	Physician, Department of Anesthesiology and Intensive Care, Hospital [1]1, UB
1979-1980	Staff, Department of Pathological Physiology, National Medical University of Mongolia (NMUM), UB
1986-1989	PhD, Research student, NMUM, UB
1989-1991	Head, Department of the Medical Information and Psychology, NMUM, UB
1991-1995	Director, Medical Education Unit of the NMUM, UB
1995-2013	President, Health Sciences University of Mongolia (HSUM)
Since 2013	President, Mongolian Academy of Medical Sciences

Professional Associations:

President of Consortium of Mongolian Universities & Colleges
Chairman of the President's Committee of the HSUM
Chairman of the Academic Council of the HSUM
President, Association of Mongolian Endocrinologists
Member of the Academic Council of Research Institute of Education, Mongolia
General Secretary of Mongolian Physiologist's Association
Chairman of Adolescence Future Center of Mongolia
Board member of the Asian Pacific Academic Consortium for Public Health
President of the International Association for Mongolian Traditional Medicine
Editor in chief of Mongolian Journal of Health Sciences
Editor of Siberian Journal of Medicine

Judy **McKIMM**
Director of Strategic Educational Development and
Professor of Medical Education
College of Medicine, Swansea University
Wales
United Kingdom

Judy's current role is Director of Strategic Educational Development and Professor of Medical Education in the College of Medicine, Swansea University. For three years prior she was Professor and Dean of Medical Education at Swansea. She worked in New Zealand from 2007-2011, both at the University of Auckland and latterly as Pro-Dean, Health and Social Care, Unitec Institute of Technology. Judy initially trained as a nurse and has an academic background in social and health sciences, education and management. She was Director of Undergraduate Medicine at Imperial College London until 2004 and led the curriculum development and implementation of the new undergraduate medical programme. In 2004-05, as Higher Education Academy Senior Adviser, she was responsible for developing and implementing the accreditation of professional development programmes and the standards for teachers in HE. She has worked on over sixty international health workforce and education reform projects for DfID, AusAID, the World Bank and WHO in Central Asia, Portugal, Greece, Bosnia & Herzegovina, Macedonia, Australia and the Pacific. She has been a reviewer and accreditor for the GMC, QAA, the Higher Education Academy and the Academy of Medical Educators for many years and is a member of ASME Executive and Council. She is programme director for the Leadership and Education Masters at Swansea and Director of ASME's Educational Leadership programme. She writes and publishes widely on medical education and leadership and runs health professions' leadership and education masters' programmes and workshops internationally.

Vishna Devi V **NADARAJAH**
Dean, Learning and Teaching
International Medical University
Malaysia

Vishna is currently, Professor and Dean of Learning and Teaching at the International Medical University in Kuala Lumpur, Malaysia. A biochemist by training, she obtained her PhD at the University of Cambridge in the field of microbial biochemistry (2000). She is also a graduate of the Masters in Health Professionals Education from Maastricht University (2014). She has published and presented research papers in both biomedical sciences and medical education, supervises research students and reviews for indexed and international journals. She was awarded the Malaysian Womens Weekly (2012), Great Women of Our Time award for her contribution in Science and Technology in Malaysia. Her current portfolio at IMU, involves developing and implementing strategic initiatives for Teaching and Learning across the 5 health professional schools: medicine, pharmacy, dentistry, health sciences and postgraduate studies. Her pet projects are enhancing the student learning environment and faculty development activities nationally and regionally.

Nobuo **NARA**
Appointed Professor
Juntendo University; and
Tokyo Medical and Dental University (TMDU)
Japan

Academic Record
1975   Graduated from Tokyo Medical and Dental University(MD degree)
1982   PhD degree (Hematology)
Specialty: medical education, laboratory medicine, hematology, leukemia research

Occupational Record
1975   Junior resident at TMDU hospital
1977   Senior resident at TMDU hospital
1983   Research fellow at Ontario Cancer Institute (Toronto in Canada)
1985   Assistant professor of 1st Department of Internal Medicine, TMDU
1989   Associate professor of Laboratory Medicine, TMDU
1994   Professor of Laboratory Medicine, TMDU
2002   Professor of Center for Education Research in Medicine and Dentistry (CERMED)
2006   Director of CERMED
2015   Appointed professor, Juntendo University, and TMDU

Research Activities
1.   Medical Education
   •   Reform of medical education system in medical schools in Japan
   •   Development of simulation-based education
   •   Development of evaluation system of medical students
   •   Computer-based testing (CBT)
   •   Objective structured clinical examination(OSCE)
   •   Accreditation in medical education

2.   Hematology
   •   Hematopoiesis
   •   Pathogenesis of acute leukemia

Award
2014   Hinohara Award (Japan Society of Medical Education)

Hiroshi **NISHIGORI**
Associate Professor
Center for Medical Education, Kyoto University
Japan

Dr. Hiroshi Nishigori is an Associate Professor at the Center for Medical Education, Kyoto University, Japan. He graduated from Nagoya University School of Medicine in 1998 and became a Fellow of the Japanese Society of Internal Medicine (2004) and a Diplomate in Primary Care of the Japan Primary Care Association (2011). He obtained a Masters Degree in Medical Education from University of Dundee (2008). His research interests include BUSHIDO and medical professionalism (especially work ethics and pro-sociality) and Hypothesis-driven physical examination (HDPE). He is working as an editor of the Journal, Medical Education Japan, a core member of the APME-Net (Asian Pacific Medical Education Network) and an Ambassador of the AMEE (Association of Medical Education in Europe) in Japan.

Jørgen **NYSTRUP**
Doctor
Psychiatry, Zealand Region
Denmark

Jørgen Nystrup, MD is currently Medical Staff Officer Psychiatry Zealand Region. He is associate Professor in Psychiatry at the university of Copenhagen and also Postgraduate Lecturer. Immediately after his MD degree at the University of Aarhus, Denmark he became a Postgraduate Fellow at the University of Rochester, NY. For 20 years he was Secretary General of the Nordic Federation for Medical education. Later he became President of AMEE. He is Senior Advisor for the World Federation for Medical Education working with Global Standards for Medical Education. Recently engaged in the WFME and Faimer project on Recognition of accrediting bodies for medical Schools.

Elise **PARADIS**
Assistant Professor and Scientist
Leslie Dan Faculty of Pharmacy;
Department of Anesthesia, Faculty of Medicine; and
The Wilson Centre
University of Toronto
Canada

Elise Paradis, PhD, is an award-wining researcher, mentor and speaker who studies collaborative healthcare practices and discourses. She obtained her MA (2010) and PhD (2011) from Stanford University. Before joining the Leslie Dan Faculty of Pharmacy, she was an Assistant Professor in the Department of Social and Behavioral Sciences at the University of California, San Francisco, and with the Department of Anesthesia at the University of Toronto Faculty of Medicine, where she is holds a cross appointment.

Dr. Paradis' research – inspired by sociological theory on the professions, Pierre Bourdieu's theory of practice and neo-institutional theory – aims to transform how teams work together to improve patient outcomes. She uses a range of methods in her research, from content analysis to ethnography, interviews, bibliometrics and scoping reviews.

Gominda **PONNAMPERUMA**
Senior Lecturer
Faculty of Medicine, University of Colombo
Sri Lanka

Dr. Ponnamperuma has served as an invited speaker cum resource person in many international symposia and conferences. Author of several journal articles and books, he sits on the editorial boards of two international medical education journals. He is a postgraduate tutor, examiner, and resource material developer for national and international medical education courses. Gominda has served as an advisor, visiting professor, consultant and fellow in several academic institutes and educational projects. He is a founder co-chair of the Asia Pacific Medical Education Network (APME-Net). His research interests are on assessment (including selection for training), and curriculum development and evaluation.

Alfaretta Luisa T. **REYES**
Emeritus Professor and Dean, College of Medicine
University of the East Ramon Magsaysay Memorial Medical Center, Inc.
Philippines

Dr. Reyes is an Emeritus Professor in Pharmacology and the Dean, College of Medicine of the University of the East Ramon Magsaysay Memorial Medical Center, Inc., Philippines where she also earned her medical degree.

She was a visiting fellow in Clinical Pharmacology at Northwestern University Memorial Hospital in Chicago, Illinois and was a Josiah Macy-Harvard Scholar on Program for Leaders in Medical Education at the Harvard Macy Institute, Harvard Medical School, Boston, Massachusetts.

She has been the President of the Association of Philippine Medical Colleges Foundation, Inc. and Chairman of the Department of Pharmacology, UERMMMCI.

She is currently the Chair, Commission on Higher Education – Technical Committee for Medical Education and a member of the Philippine Accrediting Association of Schools, Colleges and Universities Commission for Basic Medical Education.

Her interest is on medical education and on herbal medicine research.

Charlotte **RINGSTED**
Professor, Vice-dean, Director of Centre for Health Sciences Education
Faculty of Health, Aarhus University
Denmark

Charlotte Ringsted (CR) graduated as MD in 1978, and became specialist in Anaesthesiology in 1991. She left clinical medicine in 1993 for a career in medical education. Obtained a Master degree in Health Professions Education (MHPE) and a PhD degree, both from Maastricht University. She established the first Skills Lab in Denmark in 1995 at University of Copenhagen University Hospital, Rigshospitalet. In 1997-2004 she was the leader of a new Postgraduate Medical Institute for the Copenhagen Hospital Corporation. In 2004-2012 she was the leader of Centre for Clinical Education - a merge of the Skills Lab and the Postgraduate Medical Institute. During 2013-2104 she was Director of Wilson Centre, University of Toronto.

During 2004-2011 she was member of the executive board of Association of Medical Education in Europe (AMEE). One contribution was introducing courses in research in medical education connected to the annual conference, Research Essential Skills of Medical Education (RESME course) that has been run annually since 2007. She is vice-editor for Medical Education and Advances in Health Science Education, and member of Editorial Board for two international journals, International Journal of Medical Education and Perspectives on Medical Education. Current research interest includes: Training and assessment of clinical skills in clinical and laboratory settings; VR/simulation-based training, inter-professional teamwork; work-place based assessment; using students and patients as teachers and instructors.

James **ROURKE**
Dean, Faculty of Medicine
Memorial University of Newfoundland
Canada

Dr. James Rourke has served as Dean of Medicine and Professor of Family Medicine at Memorial University of Newfoundland since his appointment April 4, 2004. Dr. Rourke has a long-standing interest in rural medicine and medical education and is a recognized leader at provincial, national and international levels including Chair of Association of Faculties of Medicine of Canada (AFMC) 2009-2011, Chair of the Canadian Medical Forum 2011-Present and Chair of the ASPIRE Panel on Social Accountability, Association for Medical Education in Europe (AMEE) since 2011.

John **SANDARS**
Professor in Medical Education
University of Sheffield
United Kingdom

John qualified from the University of Sheffield in 1975 and, after training in hospital medicine, entered General Practice in 1980. He became a part time lecturer at the University of Manchester in 1994 and was appointed Director of E-learning in Health in the Evidence for Population Health Unit, where he developed the first UK online MPH programme. He was Associate Professor, Associate Director for Student Support and Academic lead for e-learning in the Leeds Institute of Medical Education from 2004 to 2014.

John has a major research and development interest in the use of innovative and educational –theory driven approaches to enhance teaching and learning.

Albert **SCHERPBIER**
Professor of Quality Promotion in Medical Education; and
Dean of the Faculty of Health, Medicine and Life Sciences
Maastricht University
The Netherlands

Professor Scherpbier is Professor of Quality Promotion in Medical Education and Dean of the Faculty of Health, Medicine and Life Sciences and Vice Chair of Maastricht University Medical Centre. His key interests in medical education are quality assurance, professionalisation of medical education, career prospects for medical teachers, involvement of medical students in improving the quality of education, and medical education research. He has published extensively on medical education research. He published around 280 papers in international peer reviewed journals, 100 papers in national journals and around 70 chapters in books and conference proceedings. He teaches courses on medical education research for the Maastricht School of Health Professions Education. He supervises national and international PhD students (48 finished) and has been a consultant to medical schools in various countries, including Indonesia, Uganda, Nepal and Ghana. He has been a driving force for curriculum innovation aimed at promoting integration of basic science and clinical science and teaching in realistic contexts. Professor Scherpbier is also involved in innovations in postgraduate specialist training. He is now the dean of the Faculty of Health, Medicine and Life Sciences and vice chair of the Maastricht UMC.

Lambert **SCHUWIRTH**
Professor
Department of Educational Development and Research
FICE, Flinders University
Adelaide, Australia; and
Adjunct Professor,
Innovative Assessment Maastricht University
The Netherlands

Lambert Schuwirth obtained his MD from Maastricht University. In 1991 he joined the department of Educational Development and Research there, taking up various roles in student assessment: chairman of the inter-university and the local progress test review committee, the OSCE review committee and the case-based testing committee. Since the early 2000s he has been chair of the overall task force on assessment. He has been advisor on assessment to medical colleges in the Netherlands and the UK. In 2010 he chaired an international consensus group on education research the results of which were published in Medical Teacher. Since 2007 he is a full-professor for Innovative Assessment at Maastricht University – currently as adjunct; since 2011 he is a strategic professor for Medical Education at Flinders University in Adelaide Australia and the Director of the Flinders University Prideaux Centre for Health Professions Education.

Lawrence **SHERMAN**
Senior Vice President, Educational Strategy
Prova Education
USA

Lawrence Sherman, FACEHP, CHCP, Senior Vice President, Educational Strategy at Prova Education, has been involved in continuing medical education for the last 21 years. His education and training in medicine and adult education have helped him to become a leader in this profession. He has spent the majority of this time designing, developing, delivering and evaluating CME courses for physicians and other healthcare professionals around the world. He is a Fellow of the Alliance for Continuing Education in the Health Professions, a founding advisor to the NC-CME (the organization that certifies CME professionals in the US), an instructor at the Emergency Medical Institute at the Center for Learning and Innovation of the North Shore/LIJ Health System in New York, and has taught healthcare communications at the Center for Communicating Science at the State University of New York, Stony Brook. He was recently appointed to the Postgraduate Education Committee for AMEE (Association for Medical Education in Europe) He currently hosts Lifelong Learning, a radio show broadcast on ReachMD via internet radio in the US and via reachmd.com and a mobile app for smartphones worldwide.

Lastly, Lawrence frequently lectures around the world on topics including:
-   roles of social networking in CME
-   regulations and guidelines in CME
-   international/global CME and CPD
-   interprofessional and team-based CME and CPD
-   healthcare communications
-   outcomes measurements in CME
-   the use of emerging technologies in medical education
-   strategic medical education.

Having once been a stand-up comedian in New York, his lectures and presentations tend to combine humor, compelling content, and audience involvement. He recently performed comedy at Carnegie Hall in New York.

Y.S. **SIVAN**
Associate Professor
PSG Institute of Medical Sciences & Research, Coimbatore
India

Dr. Sivan teaches Behavioural and Social Sciences (BSS) and Social Determinants of Health (SDH) to medical undergraduate and postgraduate community medicine students. He coordinates the undergraduate student research programme of the Department of Community Medicine. Dr. Sivan is a FAIMER Fellow, and a former Visiting Fellow to the Delhi School of Economics. He is an adjunct faculty in the PSG-FAIMER South Asia Regional Institute. Current research interests include teaching BSS in medical schools: current practices and future perspectives. He is involved in advocacy initiatives for strengthening social science-public health interface in India. He is a Life Member of SEARAME.

Roger **STRASSER**
Professor of Rural Health, Dean and CEO
Northern Ontario School of Medicine, Lakehead and Laurentian Universities
Canada

Professor Strasser is a leader in the global reform of health professional education. Recognizing the importance of context and community in medical education, Professor Strasser has become one of the world's foremost authorities in rural, socially accountable medical education. In 2002, Professor Strasser became Founding Dean of Canada's first medical school with an explicit social accountability mandate, the Northern Ontario School of Medicine (NOSM). NOSM has developed Distributed Community Engaged Learning as its distinctive model of medical education and health research. Prior to his current position, Professor Strasser was Head of the Monash University School of Rural Health in Australia.

Claire L **VOGAN**
Associate Professor and
Director of Student Support & Guidance for Graduate Entry Medicine
College of Medicine, Swansea University
Wales
United Kingdom

Claire is currently the Director of Student Support & Guidance for Graduate Entry Medicine (GEM) in Swansea University, UK. She started her academic career researching and teaching in aquatic animal health, before moving to a Lectureship in Medicine in Swansea University in 2003. She has been in post from the launch of the GEM course in 2004 and thus has extensive experience of course design, management and teaching. In 2008, Claire took on the role of Disability Link Tutor for the College of Medicine and became responsible for developing support provisions for medical students with disabilities within the College. Appointed, in 2011, as the Director of Student Support & Guidance for GEM her remit has now broadened to include the support of all medical students and she specialises in identifying students in difficulty. Whilst Claire continues to publish in aquatic animal health, she is now also actively researching and publishing in medical education. In addition to GEM teaching in microbiology and immunology, she also teaches on the Colleges Leadership and Education Masters programmes at Swansea.

Theanne **WALTERS**
Deputy Chief Executive Officer
Australian Medical Council
Australia

As Deputy Chief Executive Officer of the Australian Medical Council, Theanne Walters manages policy development, the accreditation of medical programs (particularly new functions), reviews of AMC accreditation processes, and external relationships relating to standards setting, accreditation and assessment of professional courses.

Theanne has contributed to external evaluations and accreditations internationally via the World Federation for Medical Education and the Regional Association, Association for Medical Education in the Western Pacific Region. In 2008-2009, Theanne was visiting professor at the World Federation for Medical Education, based at the University of Copenhagen. She is a senior advisor for WFME.

In Australia, Theanne is deputy chair of the Health Professions Accreditation Councils Forum, which is a coalition of the independent accreditation councils for the regulated health professions.

Xian **WANG**
Professor
Peking University Health Science Center
People's Republic of China

Prof. Wang received M.D. and Ph.D. degree in Physiology from Beijing Medical University. In 1995 she became a Professor in Physiology of medical school, and served as the Chair in the Department of Physiology and Pathophysiology of Peking University Health Science Center in 2000. From July 2006 to June 2015, she assumed the Vice-Chancellor for education of Peking University Health Science Center. Besides, she was also vice president of the Chinese Association for Physiological Sciences. Her major research interest is the pathogenesis of metabolic cardiovascular diseases. She has published 170 research papers. She has rich accreditation experience as both an assessor and a faculty member whose school undergoing accreditation.

Danai **WANGSATURAKA**
Lecturer
Faculty of Medicine, Chulalongkorn University
Thailand

Dr Wangsaturaka's background is in medicine. After obtaining his MD from Chulalongkorn University, he continued his study at University of Dundee's Centre for Medical Education. He completed Master's degree with distinction and subsequently PhD in medical education. Dr Wangsaturaka has provided educational consultancy and run faculty development workshops for faculties of medicine, dentistry, nursing, pharmaceutical science, and allied health sciences in many universities. He is also a member of educational working groups for the Thai Medical Council and the Consortium of Thai Medical Schools.

Prasit **WATANAPA**
Dean
Faculty of Medicine Siriraj Hospital
Mahidol University
Thailand

Professor Prasit Watanapa is a professor of surgery and the Dean of the Faculty of Medicine Siriraj Hospital, Mahidol University, Thailand. He obtained his MD from Mahidol University, the fellowship of the Royal College of Surgeon of Edinburgh, the fellowship of American College of Surgeon, and PhD from University of London. He also obtained certificate of Stanford Executive Programme from Graduate School of Business, Stanford University. His previous positions included director of Siriraj Hospital, Deputy Dean on Human Resource and Quality Development of Mahidol University, Director of Siriraj Medical School. He is also an education advisor of Peking Union Medical College. His interest in on medical education reform and human resource capacity building.

LOCAL FACULTY

Zubair **AMIN**
Associate Professor, Department of Paediatrics
Yong Loo Lin School of Medicine and
Senior Consultant Neonatologist
National University Hospital
National University Health System
Singapore

Dr Amin is an Associate Professor in the Department of Paediatrics in Yong Loo Lin School of Medicine, National University of Singapore and Senior Consultant Neonatologist in National University Hospital. Dr Amin obtained his Master in Health Profession Education (MHPE) from University of Illinois at Chicago, USA in 1998. His immediate past appointments include Deputy Head, Clinical, for Medical Education Unit at the School of Medicine, National University of Singapore. He also served as Assistant Dean for Curriculum and Assessment for six years at School of Medicine where he oversaw review of entire medical undergraduate curriculum.

His interests in medical education are in faculty development, assessment, and international medical education. He is the author/editor of following books: Basics in Medical Education, Profiles of Asian Medical Schools: Part I Southeast Asia, A Practical Guide on Student Assessment, and An Essential Guide to Developing, Implementing, and Evaluating Objective Structured Clinical Examination (OSCE). In addition, he has authored many chapters on medical education books published internationally including Oxford Textbook of Medical Education and International Best Practices for Evaluation of Health Professions. He is the member of editorial team of Medical Education Online, Anatomical Sciences Education, and Education Research International and member of international advisory board of Perspectives of Medical Education.

He has led an interdisciplinary team to develop a set of consensus statements and recommendations for use of technology in assessment. He is a panel member of ASPIRE (International Recognition of Excellence in Medical Education) and a member of Association of Medical Education in Europe's (AMEE) Research Task Force. He has conducted faculty development programme in Singapore, Malaysia, Indonesia, Bangladesh, Pakistan, India, Iran, Jordan, Japan, Sri Lanka, South Korea, Taiwan, Saudi Arabia, the Netherlands, and Italy. Recently, he served as a reviewer for the prestigious Karolinska Instituet Prize for Research in Medical Education, 2012 (KIPRME 2012). He is the recipient of University Teaching Excellence Award, the National University of Singapore (2006) and Friends of the Medical Students Award (2008) by the Medical Society, National University of Singapore.

Sophia **ANG** Bee Leng
Associate Professor and Senior Consultant
Department of Anaesthesia
Vice Chairman, Medical Board (Patient Safety and Operations)
National University Hospital
National University Health System
Singapore

Sophia is a cardiac anesthesiologist by training and the Chair of the Risk Management and Patient Safety Committee and the Patient Safety Officer in NUH. She has been involved in training medical students, medical officers, consultants and faculty in patient safety. Sophia has had grants and participated in a number of patient safety projects including communication of critical results, rapid escalation for deteriorating patients and information dashboard system in the operating theatre for patient safety. Her work has gained recognition at the national level and she was awarded a public service administration gold award for her role as an activist in patient safety in 2011. Her current interests include patient safety performance measures, accreditation of ward procedures, team training and improving the curriculum and education of patient safety in medical school.

Derrick **AW** Chen Wee
Senior Consultant
Division of General Medicine (Dermatology)
National University Hospital
National University Health System
Singapore

Assistant Professor Derrick Aw Chen Wee heads the dermatology division in the National University Hospital, Singapore. As a senior consultant, his subspecialty interests are acne, psoriasis, eczema, urticaria, lasers for medical and cosmetic uses, minimally-invasive aesthetic procedures, cosmeceuticals and hospital dermatology. He also practices as a registered acupuncturist. He is highly involved in both undergraduate and postgraduate medical education as a clinician-educator, Phase III medicine coordinator and an associate member with the Centre for Medical Education at the Yong Loo Lin School of Medicine, National University of Singapore. He sits in the Resident Accreditation Committee for dermatology. With numerous teaching awards to his record, he has delivered more than 130 lectures to medical students, residents, family physicians, dermatologists, pharmacists, pharmaceutical companies, and the public excluding contributions to mass media queries on dermatological problems. He played an instrumental role in training the first advanced practice nurse in dermatology in Singapore as well as co-producing several nurse-led clinic initiatives. He has written three educational books on clinical medicine (Look and Proceed, Armour 2002), clinical dermatology (Dermatology Picture MCQs, Armour 2005) and self-assessment in internal medicine (Modified Essay Questions for Medicine Finals, World Scientific 2012). Apart from sitting in the committee of the National Healthcare Group Medical Ethics Committee Board, he is currently involved in more than 20 clinical research projects and is a reviewer for several medical and nursing journals. His scientific publications exceed 30 and conference papers exceed 50.

Marion M **AW**
Associate Professor
Department of Paediatrics
Yong Loo Lin School of Medicine
National University of Singapore
National University Health System
Singapore

Since graduating from Medical School at the National University of Singapore in 1992, Marion has been working at the National University Hospital (NUH). She completed paediatric specialist training in Singapore and subsequently spent 2 years with the Paediatric Liver Unit at Kings College Hospital, London, United Kingdom. Her MD thesis (University of London) is based on clinical and research work done whilst she was there. Her area of clinical expertise is in paediatric gastrointestinal disease, hepatology and liver transplantation.

In addition to patient care, Marion's other passion is in medical education. Excellent role models and dedicated teachers during her clinical training has fueled her desire to do likewise and make a difference for medical students and post-graduate trainees. Marion is actively involved in both undergraduate and postgraduate medical education. She has been involved in post-graduate medical education in her department since 2003, and was appointed Paediatric Residency Program Director in 2010. At the undergraduate level, she has been involved in clinical teaching since 1997, was a member of the Yong Loo Lin School of Medicine Assessment Committee, Chair of the Final MBBS OSCE committee and Interim Chair of the Medical School's Standardised Patient Program. Currently, she serves as the Associate Chairman, Medical Board (Education) for NUH, and as Assistant Dean (Education) for the Medical School.

Katharine **BOURSICOT**
Director
Health Professional Assessment Consultancy
Singapore

Katharine Boursicot BSc MBBS MRCOG MAHPE NTF SFHEA FRSM, Director, Health Professional Assessment Consultancy graduated from the University of London with an Honours BSc in Anatomy and MBBS from the Medical College of St Bartholomew's Hospital and went onto train in Obstetrics and Gynaecology in London, Dublin and Hong Kong then worked as a Consultant Obstetrician and Gynaecologist at St Thomas' and St Bartholomew's and Homerton Hospitals in London for eight years, with an Honorary Senior Lecturer position at Barts and The London School of Medicine and Dentistry.

With an increasing interest in medical education, Katharine studied at the Institute of Education in London and was awarded a distinction in her Masters in Higher and Professional Education. As a full time medical educationalist, has gained experience and expertise in medical education and has led the reform of assessment at the undergraduate medical schools at Bart's and the London, Cambridge University and St George's University of London. In 2007, Katharine was awarded a UK Higher Education Academy National Teaching Fellowship, in recognition for her influence in raising standards and dissemination of evidence-based good practice in medical education in the UK and internationally.

Katharine was the Treasurer for the Association for the Study of Medical Education (ASME) for six years and chaired the Board of Management of the prestigious journal Medical Education. She also founded an annual conference dedicated to medical education research, which is now in its 8th year. In recognition of her outstanding contribution to ASME, she was awarded the President's Medal in 2013.

She has published her research in the leading medical education journals and is an Associate Editor for the journals Advances in Health Sciences Education, BioMedCentral and is a regular reviewer for Medical Education, Medical Teacher, the BMJ, the Clinical Teacher, Higher Education Quarterly and

Assessment and Evaluation in Higher Education. She is the Series Editor for the Oxford University Press companion volumes to their Handbooks of Medicine series, with six volumes published and another three in press (Oxford Assess and Progress series).

Katharine has been invited to advise on numerous national and international initiatives including the Royal Medical Colleges in the UK, the Colleges of Medicine of South Africa, the Association of Veterinary Schools in the UK, the General Medical Council, the General Dental Council, the Osteopathic Regulator, the Lawyers Regulatory Council, the Arab Board of Postgraduate Examinations, the National Assessment Group of Switzerland, the IDEAL Consortium, and has held visiting Professorships at the University of Hong Kong and the University of Amman.

Alastair V **CAMPBELL**
Director, Centre for Biomedical Ethics
Yong Loo Lin School of Medicine
National University of Singapore
National University Health System
Singapore

Professor Alastair V Campbell is the Director, of the Centre for Biomedical Ethics in the Yong Loo Lin School of Medicine of the National University of Singapore. He is a former President of the International Association of Bioethics. He is a recipient of the HK Beecher Award, a Fellow of the Hastings Centre, New York and of the Ethox Centre, University of Oxford, Honorary Vice President of the Institute of Medical Ethics, and elected Corresponding Fellow of the Royal Society of Edinburgh. His recent books include Health as Liberation (1996), Medical Ethics (with D.G. Jones and G. Gillet, 3rd Edition 2005), The Body in Bioethics (2009) and Bioethics: the Basics (May, 2013). He was formerly chair of the Ethics and Governance Council of UK Biobank and is currently a member of the Bioethics Advisory Committee to the Singapore Government.

Claire Ann **CANNING**
Lead for Introduction to Medical Sciences, Lead for Written Assessment, TBL Facilitator
Lee Kong Chian School of Medicine
Nanyang Technological University
Singapore

Claire has a keen interest in medical research, education and assessment. Her primary degree is in Biochemistry, with her masters and doctorate in Medical Genetics. In her role as Lead for Introduction to Medical Sciences, Claire oversees the entire teaching block, is a TBL Content Expert and also facilitates TBL sessions. This role also involves writing iRA questions and Application Exercises, and refreshing TBL preparation material. Claire's role in Written Assessment focuses on coordinating the written exams in the pre-clinical years, including blueprinting, item writing workshops and standard setting. In addition to these academic roles, Claire is a House Tutor providing pastoral support for medical students throughout their MBBS programme.

CHAN Yiong Huak
Head, Biostatistics Unit
Yong Loo Lin School of Medicine
National University of Singapore
National University Health System
Singapore

Yiong Huak received his PhD in Mathematics from University of Newcastle, Australia and is currently the head of the Biostatistics Unit in the Yong Loo Lin School of Medicine. He is actively involved in conducting research and statistical courses to help researchers in their aims of publication and to enhance their understanding of reading published articles. He serves as the Specialty (Biostatistics) editor for the Singapore Medical Journal.

Nicholas **CHEW** Wuen Ming
Designated Institutional Official
NHG-AHPL Residency
National Healthcare Group
Singapore

Adj Associate Professor Nicholas Chew graduated from the Faculty of Medicine, National University of Singapore (NUS) in 1995. He also holds a Masters of Medicine in Psychiatry (NUS, 2001), and a Masters of Science in Health Professions Education from Massachusetts General Hospital, Institute of Health Professions (2013). Associate Professor Chew is a key figure in healthcare education in Singapore, specifically as the Designated Institutional Official (DIO) of NHG-AHPL Residency. He is also a member of the Joint Committee on Specialist Training and the Specialist Accreditation Board in Singapore.

CHOW Yeow Leng
Associate Professor & Director of Education
Alice Lee Centre for Nursing Studies
Yong Loo Lin School of Medicine, National University of Singapore
National University Health System
Singapore

She has been a nursing academic for more than 25 years. Prior to her current position as the Director of Education, she coordinated the Master of Nursing program for 6 years. She was the Deputy Director of the Continuing Education & Training Division at the School of Health Sciences, Nanyang Polytechnic before joining ALCNS in 2009. Her primary interest is in Aged Care, Palliative Care, Ethics and Nursing Education. She holds several key positions in the voluntary welfare organizations and national committees on aging issues and nursing education. She supervises Honours, Master and PhD students. She serves as the co-chairperson of the NUS Inter-professional Education Steering Committee. Her current job scope involves overseeing the educational processes and quality of nursing education programmes in ALCNS.

CHUI Wai Keung
Associate Professor and Head of Department
Department of Pharmacy
Faculty of Science, National University of Singapore
Singapore

A/Prof Chui Wai Keung received the degree of B.Sc. (Pharmacy) Honours from NUS. He obtained his PhD degree from Aston University (UK). He was one of the five co-chairpersons of the NUS Interprofessional Education Steering Committee. He has been invited to speak at seminars as well as conduct training for academics and pharmacists in Western Pacific countries. He was awarded the Ishidate Award for Pharmaceutical Education at the Federation of Asian Pharmaceutical Association Congress in 2012. In Singapore, he was elected as the President of the Pharmaceutical Society of Singapore and he was the recipient of the 1999 Professor Lucy Wan Outstanding Pharmacist Award.

Marie-Veronique **CLEMENT**
Associate Professor, Department of Biochemistry
Yong Loo Lin School of Medicine
National University of Singapore
National University Health System
Singapore

Dr. Marie-Veronique Clement obtained her basic degree in Cellular Biology (B.Sc) with major in Immunology from Paris-6 University, Paris, France in 1986. She pursued her interest in Immunology during her M.Sc (1987) and PhD (1991) at the Pasteur Institute and Paris-6 University, Paris, France. Following her doctoral studies, she proceeded to the United States (1992-1996) as a post-doctoral fellow in the Department of Pathology at Harvard Medical School/Massachusetts General Hospital, Boston, MA. It was during her post-doctoral training that she made the significant observation that, contrary to the common belief; an increase in intracellular level of superoxide could inhibit death receptor-induced apoptotic signaling (Clement and Stamenkovic, 1996). She joined the National University Medical Institute, National University of Singapore in 1997 as a Research Associate, was appointed as an Assistant Professor in the Department of Biochemistry, NUS in 2001 and is currently a tenured Associate Professor in the Dept. of Biochemistry and an Assistant Dean Education (Student affairs) at the Yong Loo Lin School of Medicine. As an independent PI, her group dispelled the dogmatic view of reactive oxygen species as only toxic molecules by providing evidence for their involvement in cell survival signaling pertinent to carcinogenesis. For this work she was the Recipient of the NUS Outstanding Research Award (team award) 2005. More recently, A/P Clement's group has made significant progress in the understanding of the pathway involved in the induction of cell survival by superoxide. In particular her group is the first involving the regulation of the Na+/H+ exchanger 1 expression in the redox control of cell survival and cell death. Finally, her most recent contribution is the demonstration that an increase in intracellular level of superoxide contributes to the inhibition of the tumor suppressor PTEN through S-nitrosylation of the protein leading to the activation of the survival kinase Akt and proliferation of cells in absence of growth factor. In addition, over these past 6 years as an Assistant Dean working with the student affairs team, A/P Clement was involved in streamlining policies and procedures pertaining to all matters affecting and involving undergraduate students' life. She worked hard in establishing a good communication line between the academic faculty and the SA team with the overall objective of doing all that was possible for the welfare and ultimate success of the students at the Yong Loo Lin Medical School. Under the leadership of A/P Clement the SA team established processes where regular feedback are gathered from the academic faculty on the weaker students. In return faculty are kept informed of any support students might need. As the Assistant Dean of Student Affairs Dr Clement sits on all Board of Examiners meetings, and is often in a position to give a non-academic perspective of students' background and difficulties that may help the academic team to see the student in a more holistic manner.

Sandy **COOK**
Associate Professor
Senior Associate Dean, Curriculum
Duke-NUS Medical School
Singapore

In June 2006, Dr. Cook joined the Duke - NUS Medical School in Singapore, as Associate Professor and the Associate Dean for Curriculum Development as well as head of the Medical Education, Research, and Evaluation Department. In 2010 she was promoted to Senior Associate Dean. In 2012 she began working with the Academic Medicine Education Institute (AM.EI) a joint venture with Duke-NUS and SingHealth – Partners in Medicine as Chief of Pedagogy. In 2014, she was accepted into the NUS Teaching Academy Fellows.

Dr. Cook received her PhD from Cornell University in Adult and Continuing Education. Her Master's is in Research Methodology and her Bachelor's in Experimental Psychology, both from Ohio State University. Prior coming to Singapore she was the Associate Dean for Curricular Affairs, Senior Research Professional at The University of Chicago Pritzker School of Medicine from 2001-2006. Dr. Cook went to Chicago in 1985 to work as an education specialist for the Diabetes Research and Training Center (DRTC), a major NIH grant that was awarded to the University of Chicago in 1976 and continues to be funded. One of the major focuses on that grant has been the translation of diabetes research to the community, patients, and physicians. She continued on that grant and other diabetes related grants until 2003, when she needed to focus more of her time with University of Chicago Pritzker School of Medical and working with faculty to develop scholarly medical education research projects.

Dr. Cook's overall research in Chicago focused on developing and evaluating educational programs throughout the Division of Biological Sciences; health outcomes research in the area of diabetes, sleep medicine disorders, asthma, and geriatrics; and faculty development efforts in the area of the Scholarship of Education. Her work in the area of simulation and clinical assessment grew with the development of Clinical Performance Center at the University of Chicago for use in teaching and assessing the clinical skills of our medical students. This research effort has resulted in over 40 journal publications, 20 published abstracts, and one book chapter. Since coming to Singapore, she has focused much of her research on the development, implementation, and impact of Team-based Learning and faculty development.

She has been a member of the Society of Directors in Research in Medical Education since 2002 and served on the Board of Directors for 5 years until she moved to Singapore. She spent 8 years on the board of the Chicago Asthma Consortium, and served as President from 2003-2006. She also was the chair of the Curriculum and Evaluation committee of the 13-Schools Consortium from 2001-2006. She currently is a member of the Team-based Learning Collaborative, International Association of Medical Science Educators, Association of Medical educators of Europe, and is an associate editor for Medical Science Education Journal and the Proceedings of Singapore Health Care.

FONG Jie Ming Nigel
Medical Student
Yong Loo Lin School of Medicine
National University of Singapore
Singapore

Nigel is a final-year medical student at the Yong Loo Lin School of Medicine, National University of Singapore. With two like-minded classmates, Eugene Gan and Kennedy Ng, he initiated structured senior-junior mentoring programmes in the Yong Loo Lin School of Medicine, and wrote integrated case material for teaching. Nigel finds joy investing in the success of peers and juniors, and in building a nurturing medical school culture, with the ultimate aim of improving future patient care. He is also a President's Scholar with an active interest in healthcare policy issues.

Poh-Sun **GOH**
Associate Professor and Senior Consultant
Department of Diagnostic Radiology
National University Hospital
National University Health System
Singapore

Dr Goh is a graduate of the Melbourne Medical School in Australia (1987), a Fellow of the Royal College of Radiologists (1993), Fellow of the Academy of Medicine in Singapore, and has obtained a Masters of Health Professions Education from Maastricht University (2012). Dr Goh is a clinician educator who currently devotes 60% of his time to clinical practice and postgraduate training; and 40% of time to faculty development and educational research. This has been supplemented over the last four years by daily two to three hour early morning sessions focused on creating, curating and sharing (anonymised) case based educational teaching resources on a variety of digital and mobile learning platforms, from a digital repository currently containing over 10,000 digital teaching and learning objects. 25/22/14: years of experience as a clinical radiologist/educator/technology enhanced learning practitioner. He is currently in the 4th year as project lead of a pilot project (Learning@NUHS) to create a hyperlinked indexed case based teaching repository at NUHS. He joined the YLLSoM EduTech team in September, 2014 in an advisory and facilitatory role. Dr Goh designed and has been presenting Technology Enhanced Learning or eLearning workshops for Faculty development locally at the Medical Education Unit/Centre for Medical Education, YLL SoM over the past 6 years; and has also contributed internationally as a resource person for an ongoing three year Singapore International Foundation/Sri Lankan Ministry of Health program in eLearning for Health Professions Educators in Sri Lanka, as well as more recently over the last year as a visiting professor at Kazakhstan National Medical University in technology enhanced learning, and as a keynote speaker and workshop presenter in eLearning at an International Conference in Medical Education in Kaohsiung, Taiwan. He has presented consecutive papers on eLearning at the Association for Medical Education in Europe (AMEE) conference over the last 11 years, as well as several symposia on eLearning at AMEE; and has published papers on medical education in Medical Teacher. He is a current appointed member of the AMEE eLearning committee; and a member of the organising committee for the 2-day AMEE eLearning symposium immediately preceding the main AMEE conference in Glasgow, 2015.

"Passions - Technology enhanced learning, Education, Radiology. Technology as a tool, platform and enabler to support and augment face to face customised teaching and learning; with educational principles as the foundation; and radiology as my academic and clinical focus."

http://sg.linkedin.com/pub/poh-sun-goh/22/45b/b16 (LinkedIn profile)

Raymond **GOY**
Senior Consultant
Department of Anaesthesia
National University Health System
Singapore

Associate Professor Raymond Goy graduated from NUS Medical School in 1995 and obtained his postgraduate certification (Master of Medicine Anaesthesia, Singapore as well as Fellowship of the Australian and New Zealand College of Anaesthetists) in 2003. He specializes in Obstetric Anaesthesia and has completed subspecialty training in King Edward Memorial Hospital, Perth Western Australia.

A/Prof Goy held the appointment of Program Director, NUHS Anesthesiology Program from 2010-2015. He now currently oversees the Quality in Education (QIE) and the Resident Training Support (RTS) subcommittees in NUHS Residency.

A/Prof Goy has coordinated and directed many of the Anaesthesia teaching courses, including the Supervisors' courses. He has taught in every Master of Medicine (Singapore) Anaesthesia Primary & Final Examinations Preparatory Course since 2004 and participated in teaching trainees overseas as well. His clear grasp of Basic & Clinical Anaesthetic principles and directed teaching methods won him accolades from anaesthesia trainees year after year. Help with complex anaesthesia related concepts is just an operating theatre away! He has personally mentored cohorts of Basic and Advanced anaesthesia trainees, striving to make differences in their professional development.

A/Prof Goy is also author & co-author of more than fifteen tier-1 and 2 international publications. His research interests include airway research, pain, innovative teaching methods and outcomes after anaesthesia and surgery. His research awards include the prestigious International Anaesthesia Research Society (IARS) poster awards, accolades from regional and local scientific conferences, Ministry of Health (Singapore) Healthcare Quality Improvement Fund and Health Science Research Awards.

Matthew C. E. **GWEE**
Professorial Fellow and
Chairman, International & Education Programmes
Centre for Medical Education
Yong Loo Lin School of Medicine
National University of Singapore
National University Health System
Singapore

Professor Gwee is currently a Professorial Fellow and Chairman, International and Education Programmes in the Centre for Medical Education of the Yong Loo Lin School of Medicine. Professor Gwee currently serves in several local, regional and international committees, Advisory Boards, as well as the Editorial Boards of Medical Teacher, Medical Education, International Journal of Medical Education and J Medical Education and Curriculum Development. Professor Gwee has been an invited speaker/panelist for several gold standard meetings in medical education in the Asia-Pacific region and beyond. He is a pioneer in the field of medical education in Singapore and obtained his MHPEd degree from the University of New South Wales in 1981 during the tenure of a WHO Fellowship. He received the prestigious MILES Award in the 3rd Asia Pacific Medical Education Conference 2006, in recognition of his many contributions to Mentoring, Innovation and Leadership in Educational Scholarship.

Professor Gwee has served as: Fellow of the NUS Teaching Academy; Member, University Committee on Educational Policy; Associate Director, CDTL (1997-2006); Foundation Member, Institutional Animal Care and Use Committee; inaugural Co-Chairman of the Nursing Curriculum Committee, Alice Lee Centre for Nursing Studies; Vice-Dean (1980-1992) and Head, Department of Pharmacology (1987-1997) and Chairman, PBL Committee (2000-2006) in the then Faculty of Medicine, NUS. Professor Gwee has also served as a Member of the Management Committee of the Association for Medical Education in Asia, and also Member, Board of Directors, International Association of Medical Science Educators.

Professor Gwee was recently invited by Nova Publications to contribute a Chapter in the book "Medical Education: Global Perspectives, Challenges, and Future Directions". Professor Gwee, together with D. Samarasekera and Chay-Hoon Tan contributed the chapter "Globalisation of Medical Education: An Asian Perspective." Recently, Professor Gwee also published two key papers in Special Issues to commemorate the centenary year (2010) of the Flexner Report in the Journal of Medical Education ("Medical and Health Care Professional Education in the 21st Century: Institutional, National and Global Perspectives") and the Journal of the International Association of Medical Science Educators ("Role of Basic Medical Sciences in 21st Century Medical Education."). Since then he has also contributed to other publications including a chapter ("Assessing Anatomy as a Basic Medical Science") in the book 'Teaching Anatomy: A Practical Guide' published by Springer.

HA Tam Cam
Assistant Professor
Duke-NUS Medical School
Singapore

Assistant Professor Tam Cam HA has a PhD in Cancer Epidemiology from the Faculty of Medicine, The University of Sydney. She currently works at DUKE-NUS Singapore, where she is course director for Evidence Based Medicine and developed the course taught using the Team Based Learning methodology, the chosen instructional method at DUKE-NUS. She is also part of the course facilitation team, and is one of the 4 facilitators, facilitating all the first year courses at DUKE-NUS. She is also involved faculty development, at the AMEI (Academic Medicine Education Institute) where she teaches faculty how to write multiple choice questions, how to facilitate and led the development of the online Essentials in Clinical Education course, which covers the first level of AOME (Academy of Medical Educators) competencies. She is currently the chairperson of the Academic Medicine Education Institute's Professional Development committee, which is dedicated to crafting curricula to train educators.

Anita **HO**
Associate Professor, Centre for Biomedical Ethics
Yong Loo Lin School of Medicine
National University of Singapore
National University Health System
Singapore

Anita Ho is an Associate Professor and the Director of Undergraduate Medical Ethics Curriculum at the Centre for Biomedical Ethics (CBME) at the National University of Singapore (NUS). Prior to joining NUS, Anita was an Associate Professor at the Centre for Applied Ethics and the Director of Ethics Services at Providence Health Care in Vancouver, Canada. She is particularly interested in using strength-based approaches to teach professionalism and ethics, and in developing models for evaluating ethics curricula for various educational and professional programs. Her other main area of research focuses on supportive and shared decision making in the diverse healthcare settings. Anita is currently also a Section Editor for the BMC Medical Ethics.

Calvin **HO**
Assistant Professor, Centre for Biomedical Ethics
Yong Loo Lin School of Medicine
National University of Singapore
National University Health System
Singapore

Calvin WL Ho is Assistant Professor at the Centre for Biomedical Ethics in the Yong Loo Lin School of Medicine, National University of Singapore (NUS). He is also Co-Head of the Collaborating Centre for Bioethics of the World Health Organization, and a Research Associate with The Ethox Centre, University of Oxford. In addition, he serves as an Assistant Director with the Legal Aid Bureau (Ministry of Law), a member of the National Transplant Ethics Panel (Ministry of Health), a member of the Bioethics Committee of Alexandria Hospital, a member of the Paediatric Ethics and Advocacy Centre, National University Hospital and a member of NUS Inter-professional Education Steering Committee.

Gerald Choon-Huat **KOH**
Associate Professor
Saw Swee Hock School of Public Health
National University Health System
Singapore

Dr Gerald Koh is currently an Associate Professor in the Saw Swee Hock School of Public Health, National University Health System (NUHS). He holds a Fellowship in Family Medicine and Masters in Gerontology and Geriatrics. He currently teaches family medicine, epidemiology and public health to undergraduate and postgraduates. His current medical education research interests include problem-based learning, geriatrics education and student-led peer learning programmes. He has published his medical education research in Canadian Medical Association Journal, Academic Medicine, Medical Education, Medical Teacher and Annals of Academy of Medicine Singapore. He received both the NUS Faculty Teaching Excellence Award and the University Teaching Excellence Award in 2009, and the College of Family Physicians (Singapore) Teachers' Award in 2005 and Distinguished Educator Award in 2015.

Karen **KOH**
Assistant Director of Nursing (Advanced Practice Nurse)
National University Hospital
National University Health System
Singapore

Karen graduated with Bachelor of Nursing (Hons) from University of Manchester. She became interested in intensive nursing care and further pursued Masters in Nursing at University of Pennsylvania (Acute Care Nursing Practitioner and Clinical Nurse Specialist). She is one of the pioneer APNs in Singapore to be certified in 2007. She is active in the development of APNs both in National University Hospital and nationally. She is heavily involved in enhancement of internship process for APN interns and is the chairperson for the APN exam committee. She is also a board member of Singapore Nursing Board.

Manjari **LAHIRI**
Associate Program Director, Internal Medicine Residency Program
Co-Chair, Curriculum Subcommittee, Graduate Medical Education Committee, NUHS Residency
Senior Consultant, Division of General Medicine (General Internal Medicine) and Rheumatology
National University Hospital
National University Health System
Singapore

Dr. Lahiri did her basic and postgraduate medical training in Internal Medicine at the All India Institute of Medical Sciences, New Delhi, India and obtained membership of the Royal College of Physicians, UK in 2005. Dr. Lahiri has lived in Singapore since 2001, and joined the National University Hospital in 2004, where she trained as a specialist in Internal Medicine and Rheumatology. She has done a fellowship in rheumatic disease epidemiology at the University of Manchester, UK. She is especially interested in early arthritis and health care quality research. Dr. Lahiri has published on risk factors for early rheumatoid arthritis, and is the Principal Investigator for the Singapore Early Arthritis Cohort (SEAC) an observational study of early inflammatory arthritis in Singapore.

Dr. Lahiri is actively involved in postgraduate education initiatives. She has been the Associate Program Director for the IM residency program since 2010. She co-chairs the curriculum subcommittee of the Graduate Medical Education Committee (GMEC) since 2013. The curriculum subcom is responsible for designing and implementing the core education program (CEP) for residents hospital wide. The CEP comprises of an OSPE (objectively structured practical exam) for all new residents joining NUHS, to orientate them to common clinical problems on call, and familiarize them with management. The OSPE includes a communications station, and introduction of specific NUH standard operating procedures (SOP). The subcom also runs a weekly teaching program for PGY1 residents, mapped to the National PGY1 curriculum, and taught by interdisciplinary faculty. The subcom, in addition organizes the Clinical Investigation course, the Residents as Teachers course and the Course on Quality Improvement (CQIP) (in conjunction with hospital administration) and the "bite-sized" QI courses for all junior and senior residents in NUHS. Dr. Lahiri has been actively involved in the conception, design, organization and running of the OSPE and Clinical Investigation course and is actively involved in teaching and facilitating at the CQIP.

LAU Tang Ching
Vice Chairman Medical Board (Education)
National University Hospital and
Associate Professor, Department of Medicine
Assistant Dean (Education), Yong Loo Lin School of Medicine
National University of Singapore
National University Health System
Singapore

Dr Lau Tang Ching is currently working as a consultant rheumatologist in the Division of Rheumatology, University Medicine Cluster in the National University Health System. He is the head of the rheumatology division since 2009. He has being appointed as the Assistant Dean (education) of Yong Loo Ling School of Medicine in June 2010, and as Vice Chairman Medical Board (education) for NUH since July 2013. He graduated in 1991 from the National University of Singapore and obtained his Membership of the Royal College of Physician in United Kingdom and the Master of Medicine (internal medicine) degree in 1997. He is a fellow of the Academy of Medicine Singapore since 2001 and the Royal College of Physician (Edinburgh) since 2004. He also holds a Master of Medical Science degree in Clinical Epidemiology (University of Newcastle, Australia), and a graduate diploma degree in acupuncture (Singapore). His main research interests are in osteoporosis, pharmacoeconomic evaluation, medical education and evidence based medicine. He has helped to coordinate the Health Service Development Program for osteoporosis (HSDP) in 2003 to 2007 in the NHG cluster, which was successful in improving adherence and reducing the recurrent fracture rates of patients who were at high risk of recurrent fractures. He is helping to coordinate the Osteoporosis Disease Management Program (OPTIMAL), which is an extension of the previous HSDP osteoporosis program. He is currently the president of the Osteoporosis Society (Singapore) and the vice-chairman of the National Arthritis Foundation. His hobbies include photography, singing, cooking, jogging and taichi.

LIAW Sok Ying
Assistant Professor
Alice Lee Centre for Nursing Studies
Yong Loo Lin School of Medicine
National University of Singapore
National University Health System
Singapore

Dr Liaw Sok Ying, is a registered nurse and an Assistant Professor at the Alice Lee Centre for Nursing Studies (ALCNS), National University of Singapore (NUS). She has been involved in a number of educational initiatives at ALCNS, including the development and implementation of simulation evaluation tools, Objective Structure Clinical Examination (OSCE), simulation-based interprofessional education and virtual patient simulation. Her interest in simulation education and patient safety has motivated her to take up a PhD in Health Professional Education. Her research interest is on Rescuing A Patient In Deteriorating Situations (RAPIDS). Since her PhD study, she has been undertaking programmatic approach in developing and evaluating simulation-based education programs, with the ultimate aim to improve nursing competency in assessing, managing and reporting of physiological signs of deterioration. She has created a website at www.rapids.sg to share her evidence-based educational resources on RAPIDS. Her research work on simulation education and RAPIDS has been recognized through publications in high impact journals (e.g. Resuscitation and Journal of Medical Internet Research) She has been invited as a speaker on simulation education by a number of institutions in Japan, Taiwan and Thailand.

Victor **LOH**
Education Director
Department of Family Medicine
Yong Loo Lin School of Medicine
National University of Singapore
National University Health System
Singapore

As Education Director of the Family Medicine programme , Dr Victor Loh has overseen the development of the family medicine communications programme in collaboration with the Centre for Healthcare Simulation (CHS). Over the past three years, in addition to learning through receiving feedback from trained standardized patients (SPs), students' communications/consultation skills are also assessed by SPs. Dr Loh's varied interests in medical education include methodologies that encourage student interaction, collaboration, reflection and self-directed learning.

Naomi **LOW-BEER**
Associate Professor
Vice-Dean Education
Lee Kong Chian School of Medicine
Nanyang Technological University
Singapore

Associate Professor Naomi Low-Beer is Vice-Dean, Education at the Lee Kong Chian School of Medicine (LKCMedicine), responsible for development, delivery and evaluation of the MBBS programme, as well as for the activities of the LKCMedicine Medical Education Research and Scholarship Unit (MERSU). Since January 2011, she has had a lead role in designing LKCMedicine's innovative education programme, including the development of the team based learning curriculum. She has published on a number of areas of medical education, including curriculum development, assessment, and task analysis. Associate Professor Low-Beer is Consultant Gynaecologist at Chelsea and Westminster Hospital in London. Having been granted a 3 year break from clinical service, she relocated to Singapore in December 2014 in order to focus completely on LKCMedicine in its early operational phase.

Yvonne **NG**
Director (Education), National Healthcare Group
Executive Director, NHG College, National Healthcare Group
Singapore

Ms Yvonne Ng is the Director (Education) of the National Healthcare Group (NHG) and Executive Director of NHG College. She oversees Graduate Medical Education, pre-employment health profession education, and education development in NHG, as well as the group's training arm - NHG College. Working closely with education leadership of NHG and NHG educators, Yvonne plays a pivotal role in setting up and growing the quality health professions education system in NHG.

Nicola **NGIAM**
Consultant Paediatrician
Department of Paediatrics
National University Hospital
National University Health System
Singapore

Dr Nicola Ngiam graduated from the National University of Singapore and subsequently attained higher academic qualifications in the Masters of Medicine in Paediatrics (NUS) and MRCPCH (UK). She received postgraduate training in the field of Paediatric Critical Care at the Hospital for Sick Children in Toronto, Canada. She is currently the Director of the Standardized Patient Program, Yong Loo Lin School of Medicine, National University of Singapore as well as a consultant in the Paediatric Intensive Care Unit, Khoo Teck Puat – National University Children's Medical Institute, National University Health System.

She is actively involved in undergraduate paediatric education as well as programs for paediatric postgraduate students and nurses in the field of paediatric acute care. She has a special interest in the field of standardized patient training, communication skills and the use of simulation-based teaching methods.

Raymond **NGO**
Assistant Professor & Senior Consultant
Department of Otolaryngology (ENT) - Head & Neck Surgery
National University Hospital
National University Health System
Singapore

Dr Raymond Ngo graduated from Trinity College, Dublin. He completed his Otolaryngology residency in Singapore and did an Otology Fellowship in Vancouver, Canada. He is currently a Senior Consultant Otolaryngologist at the National University Hospital, Singapore and the Program Director for the NUHS Otolaryngology Residency Program. He is the co-chair for the faculty development subcommittee in NUHS Residency. His current academic interest is in endoscopic ear surgery, surgical competency assessments and simulation training in otolaryngology.

Shirley **OOI** Beng Suat
Senior Consultant and Associate Professor
Emergency Medicine Department (EMD), and
Designated Institutional Official, NUHS Residency
National University Health System (NUHS)
Singapore

Associate Professor Shirley Ooi is a Senior Consultant and former Chief of the Emergency Medicine Department (EMD) National University Hospital (NUH). She has been the Designated Institutional Official of the National University Health System (NUHS) Residency since 2009. She chairs the NUH Evidence-based Medicine subcommittee and was formerly chairing the Emergency Medicine Specialist Training Committee. She is a member of the Specialist Accreditation Board in Singapore, Joint Committee for Specialist Training, National Postgraduate Year 1 committee, Medical Education Coordinating Committee, and the National University of Singapore Outcomes Definition and Curriculum Rationalisation Task Force

A/Prof Ooi's passion is in teaching and mentoring. She has won multiple teaching awards, the most prestigious being the 2013 National Outstanding Clinician Educator award. She has written 3 books entitled "Guide to the Essentials in Emergency Medicine 1st and 2nd eds" and "Medicolegal Issues in Emergency Medicine and Family Practice: Case Scenarios".

Preman **RAJALINGAM**
Deputy Director
Head of Educational Development and TBL Facilitation
Lee Kong Chian School of Medicine
Nanyang Technological University
Singapore

Preman is an advocate of active student-centered approaches to learning, and an experienced faculty developer. He has separate master degrees in Engineering and Education, a doctorate in Education Psychology, and has previously taught engineering, science and critical thinking. In his current role he is Head of Educational Development and TBL Facilitation at the Lee Kong Chian School of Medicine. Here his responsibilities include providing advice on curriculum development and faculty development. He is also responsible for the TBL facilitation and leads a team of TBL Facilitators, whose job it is to run the TBL sessions effectively.

Dujeepa D. **SAMARASEKERA**
Director, Centre for Medical Education
Yong Loo Lin School of Medicine
National University of Singapore
National University Health System
Singapore

Dujeepa Samarasekera is the Director, Centre for Medical Education, Yong Loo Lin School of Medicine, National University of Singapore. Dujeepa has been involved in curriculum planning, evaluation, and student assessment at both undergraduate and postgraduate level health professional courses.

Dujeepa serves on the editorial advisory boards of South East Asian Journal of Medical Education (SEAJME), Korean Journal of Medical Education and is a peer reviewer for Medical Teacher, Medical Education, Annals of Academic Medicine, Singapore Medical Journal, Asia Pacific Journal of Public Health and serves as faculty to local and international health professional education programs.

He is also the vice-president of Association for Medical Education in the Western Pacific Region(AMEWPR) and a board member of Asian Medical Education Association, AMEE Ambassador and member of ASPIRE panel for Medical School Assessment and Faculty Development, and Asia Pacific Network for Scholarship in Medical Education (APNetSME).

His main research interests are in effective teaching/learning behaviours and assessment and has published in peer reviewed journals as well as authored book chapters relating to Medical and Health Professional Education.

TAN Chay Hoon
Associate Professor, Department of Pharmacology
Member, Centre for Medical Education (CenMED)
Yong Loo Lin School of Medicine, National University of Singapore;
and Consultant Psychiatrist, National University Hospital
National University Health System
Singapore

Dr Tan is an Associate Professor in Pharmacology, National University of Singapore (NUS) and Consultant Psychiatrist, National University Hospital. She served on the Educational Task Force of Yong Loo Lin School of Medicine, on Curriculum Review as well as faculty Professional Development and coordinates the Mentoring Program. She is a Member of the Centre for Medical Education (CenMED) and is actively involved in students and faculty assessment, Objective-Structured-Clinical-Examination and Objective-Structured-Teacher and Examiner Evaluation. She is on the editorial board of Medical Progress and International Journal of Mental Health and an invited manuscript reviewer for various International Neuroscience and Psychiatric Journals. Dr Tan has been active in undergraduate and postgraduate teaching and NUHS Residency Curriculum planning. She has received the Faculty Teaching Excellence Award 2013/2014, University Annual Teaching Excellence Awards in 2013/2014, 2004/2005 and 2001/2002 and has been awarded Master of Medical Education by University of Dundee in 2011.

Clement Woon-Teck **TAN**
Senior Consultant and Head
National University Hospital
National University Health System
Singapore

Associate Professor Clement Tan took over Headship of Ophthalmology Department, National University Hospital and National University Singapore effective 1 June 2014. He obtained his MBBS from the National University of Singapore in 1993. After completing his basic and advanced Ophthalmology training in Singapore, Associate Professor Tan completed a fellowship in Neuro-ophthalmology at King's College Hospital and the National Hospital for Neurology and Neurosurgery in London. He received his Masters in Health Professions Education from University of Maastricht in June 2014.

Apart from general clinical ophthalmology and general neuro-ophthalmology, he has special interests in eye movement and pupil disorders. Associate Professor Tan heads the Neuro-ophthalmology service at the National University Hospital. He also plays a significant role as NUHS Associate Designated Institutional Official in Residency Program and is Ophthalmology Residency Program Coordinator. He is passionate about teaching and has been recipient of National University Hospital Postgraduate Teaching Excellence Award for 3 consecutive years (2011-2013).

Nigel **TAN**
Education Director
National Neuroscience Institute
Singapore

In my current role as Education Director of NNI, I currently manage education – medical, allied health and nursing – within NNI. The work keeps me very busy, but I am privileged to work with many dedicated, talented educators whose commitment to education is unquestionable. I remain sane through running, immersion in pop culture, and dabbling in education research. I have occasionally been known to crack a joke.

TAY Sook Muay
Associate Dean
Singapore General Hospital
Senior Consultant
Department of Anaesthesiology
Singapore

Adj Assoc Prof Tay Sook Muay is Associate Dean at the Yong Loo Lin School of Medicine at Singapore General Hospital. She is a senior consultant anaesthesiologist with a special interest in liver transplantation anaesthesiology, burns intensive care medicine and the psychology of learning and development.

She is a highly experienced medical educator and has been the Lead Clinical Educator at Singapore General Hospital since 2012 . Her many education activities include being an ATLS Course Educator (Train the Trainers programme) and a facilitator for the 7 Habits programme at Singapore General Hospital. She also served as an Adjunct Associate Professor at the Office of Education, Duke NUS Graduate Medical School.

Adj A/P Tay has published many papers on anaesthesiology and educational practice as well as co-authored in the book Anaesthesia for Emergency Medicine (World Scientific Publishing, 2004). She is currently involved in a variety of research projects examining clinician work practices and burns treatment.

She is a member of many professional associations such as the Singapore Intensive Care Society, College of Anaesthesiologist, St John's Order, Adult Education Network (AEN) and sat on committees such as the Pedagogy Committee at the Postgraduate Medical Institute and the Committee for Core Skills- Simulation Training Work. She has presented papers at a number of international conferences including the World Congress of Intensive Care Medicine, the ASME Conference and the Congress of the Western Pacific Association of Critical Care Medicine.

Adj A/P Tay cares deeply about achieving the best possible outcomes for patients, as well as the resulting satisfaction and affirmation experienced by clinicians when this occurs. She firmly believes that this affirmative journey starts with the education of medical students on patient safety and best outcome.

Christine **TENG** Bee Choon
Assistant Professor, Department of Pharmacy
National University of Singapore; and
Principal Pharmacist (Clinical), Department of Pharmacy
Tan Tock Seng Hospital
Singapore

Christine teaches and co-ordinates undergraduate and Doctor of Pharmacy courses in NUS Pharmacy. She is also a Principal Clinical Pharmacist at Tan Tock Seng Hospital and actively promotes the rational use of antimicrobials as part of the multi-disciplinary TTSH Antimicrobial Stewardship Programme. She completed her 2-year Clinical Pharmacy Research Fellowship at the University of Illinois at Chicago in 2008 and was a Visiting Scientist at Mayo Clinic (Rochester, Minnesota, USA) from August 2013 to June 2014. Christine is board certified in Pharmacotherapy by the US Board of Pharmaceutical Specialties since 2007, with added qualification in infectious diseases from 2011. She is accredited Specialist Pharmacist (Infectious Diseases) by the Singapore Ministry of Health since 2011.

Christine has been a pharmacist for almost 20 years and enjoys practicing in multi-disciplinary teams. Christine is a member NUS Interprofessional Education Steering Committee and was the elected President of the Pharmaceutical Society of Singapore from 2011 to 2013. She has been invited to speak on pharmacy practice and education in China, Thailand and the Philippines.

Winnie **TEO** Li-lian
Manager (Education), National Healthcare Group
Singapore

Ms Winnie Teo graduated from the School of Biological Sciences, National University of Singapore with a Ph.D. in Molecular Biology in 2001. After her post-doctoral research stint, she joined an educational consultancy group, helping Singapore schools set up and implement molecular biology education programmes. A keen educator, she also lectured part-time in the School of Chemical and Life Sciences, Nanyang Polytechnic. As one of the newest members in the NHG Education team, Winnie is excited about being in the burgeoning scene of education research in the health professions.

T **THIRUMOORTHY**
Associate Professor, Education
Duke-NUS Medical School
Singapore

Dr T Thirumoorthy is a medical doctor, trained as a dermatologist and presently a Visiting Consultant at the Singapore General Hospital, at which he was the founding director of the Dermatology department in 2002.

Dr Thirumoorthy is the Founding Director of the SMA Centre for Medical Ethics and Professionalism (SMA-CMEP) from 2000 to 2003. The SMA Council has recently appointed Dr Thiru to helm the SMA CMEP as its Executive Director from 2011. He has been on the lead Teaching Faculty of the Ministry of Health /SMA Course on Ethics & Professionalism for Advanced Specialist Trainees since 2004. In 2004, Dr Thirumoorthy was awarded the SMA Merit Award for services contributed in medical ethics and professionalism.

He was an elected member of the Singapore Medical Council (SMC) from 2005 to 2008 and re-elected in 2014 to serve a 3 year term. He was a member of the MOH National Medical Ethics Committee (NMEC) from 2005 to 2012.

He has been the Chief Censor of the Academy of Medicine of Singapore since 2012.

He holds a Master degree in Healthcare Ethics and Law from the University of Manchester (2007) and completed the Masters in Counselling (Monash) in 2015. Since January 2007, he has taken the appointment as Associate Professor in the Education Program, at the Duke-NUS Medical School, Singapore, where his teaching responsibilities include subjects on clinical skills, professionalism, medical ethics, communications and healthcare law.

WONG Mun Loke
Senior Lecturer
Faculty of Dentistry
National University of Singapore
National University Health System
Singapore

Dr Wong Mun Loke is currently the Assistant Dean (Education) in the Faculty of Dentistry. Mun Loke received his MSc, with Distinction, in Dental Public Health from the Eastman Dental Institute, London, in 2002. He is actively involved in the undergraduate teaching of Preventive Dentistry, Dental Public Health and Behavioural Science and is also a member of NUS Inter-professional Education Steering Committee.

WONG Teck Yee
Family Physician, Consultant, Dept of Continuing and Community Care, Tan Tock Seng Hospital (TTSH) and
Associate Professor & Assistant Dean (Family Medicine),
Lee Kong Chian School of Medicine (LKCMedicine),
Nanyang Technological University
Singapore

Teck Yee is a Family Physician, Consultant, in TTSH and Associate Professor & Assistant Dean (Family Medicine) in LKCMedicine. He has obtained his MBBS (1995), Masters in Family Medicine (2001), MPH (2009) & Masters in Health Professions Education (2013).

After completing his Family Medicine residency training, he worked in Choa Chu Kang Polyclinic as a Family Physician (2001 - 04) and later as Head/Senior Family Physician (2004 - 06). He was awarded the Human Manpower Development Programme (HMDP) scholarship to the Dept of General Practice in Monash University, Melbourne (2005). He joined the National University of Singapore as an Assistant Professor (2006-11), holding the post of FM Undergraduate Education Director.

In 2011, he joined Tan Tock Seng Hospital as a Family Physician Consultant and was appointed Asst Dean (Fam Med) of LKCMedicine. He is currently an examiner for the Graduate Diploma of FM and the MMed (FM) in Singapore. He was a member of the National Undergraduate Curriculum Committee and is currently on the FM Residency Advisory Committee for the FM postgraduate medical examination.

He remains in active clinical practice, has contributed more than 20 articles in peer-reviewed journals and to Disease Management Guidelines. He also actively participates in both local and international conferences, with numerous oral and poster presentations.

Abstract Reviewers

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Diantha Soemantri, Indonesia
Yvonne Steinert, Canada
Clement Tan, Singapore
Kevin Tan, Singapore
Nigel Tan, Singapore
T. Thirumoorthy, Singapore
Jen-Hung Yang, Taiwan

Judges
Overall Chief Judge — P Gopalakrishnakone, Singapore

Best Abstract for Poster Presentation (BP1-BP20)

Ravindran Jegasothy, Malaysia*
Zainalabdin Abdelrahimkarrar, Sudan
Yen-Yuan Chen, Taiwan

Free Communication Session 1

Prasit Watanapa, Thailand*
Xie Ana, China
Ardi Findyartini, Indonesia

Free Communication Session 2

Indika Karunathilake, Sri Lanka*
Pete Ellis, New Zealand
Shekhar M. Kumta, Hong Kong S.A.R.

Free Communication Session 3

Katharine Ann Mary Boursicot, Singapore*
Yasuhiko Konishi, Japan
Harivelle Charmaine T. Hernando, Philippines

Free Communication Session 4

Yasuyuki Suzuki, Japan*
Kathy Chappell, USA
Lam Tai Pong, Hong Kong S.A.R.

Best Abstract for Poster Presentation (BP21-BP40)

Sun Kim, South Korea*
Gang Xin, China
Mia Kusmiati, Indonesia

Free Communication Session 5

Ricardo Leon-Borquez, Mexico*
Claire Vogan, United Kingdom
Rathi Mahendran, Singapore

Free Communication Session 6

Lambert Schuwirth, Australia*
Atm Emdadul Haque, Malaysia
Dk Nurolaini Pg Haji Muhd Kifli, Brunei

Free Communication Session 7

Win May, USA*
B.V. Sai Chandran, India
Chow Yeow Leng, Singapore

Free Communication Session 8

Sandy Cook, Singapore*
Junaid Sarfraz Khan, Pakistan
Siu Hong Michael Wan, Australia

*Chief Judge for the respective sessions

Chairpersons (E-Poster Presentation)

Session 1A:

Friday 15 January 2016
(9.45am-10.25am)

Station 1 – Sim Kang, Singapore

Station 2 – Nga Min En, Singapore

Station 3 – Theanne Walters, Australia

Station 4 – Yen Loo Lim, Singapore

Session 1B:

Friday 15 January 2016
(10.25am-11.15am)

Station 1 – Rukshana Ahmed, Bangladesh

Station 2 – Li Wei, P. R. China

Station 3 – Suncana Kukolja Taradi, Croatia

Station 4 – Chan Choong Meng, Singapore

Session 2:

Friday 15 January 2016
(2.00pm-3.00pm)

Station 1 – Lin-Ying Hu, Canada

Station 2 – Lee Chien Earn, Singapore

Station 3 – Anthony J Buzzard, Australia

Station 4 – Chiam Peak Chiang, Singapore

Session 3:

Friday 15 January 2016
(4.15pm-5.15pm)

Station 1 – Jenny Wong Lee Yuen, Singapore

Station 2 – Chay Oh Moh, Singapore

Station 3 – Gerald Koh, Singapore

Station 4 – Pam Craig, Australia

Session 4:

Saturday 16 January 2016
(8.00am-8.45am)

Station 1 – Naresh Kumar, Singapore

Station 2 – Lee Yung Seng, Singapore

Station 3 – John Tam, Singapore

Station 4 – Derrick Aw Chen Wee, Singapore

Session 5A:

Saturday 16 January 2016
(10.00am-10.50am)

Station 1 – Erle Lim, Singapore

Station 2 – Lim Mien Choo Ruth, Singapore

Station 3 – Tay Sook Muay, Singapore

Station 4 – Nigel Tan, Singapore

Session 5B:

Saturday 16 January 2016
(10.50am-11.45am)

Station 1 – Alan Ng Wei Keong, Singapore

Station 2 – Roy Joseph, Singapore

Station 3 – Sok Ying Liaw, Singapore

Station 4 – Nicholas Chew Wuen Ming, Singapore

Session 6:

Saturday 16 January 2016
(1.15pm-2.15pm)

Station 1 – Vaughan Kippers, Australia

Station 2 – Tan Kong Bing, Singapore

Station 3 – KN Sin Fai Lam, Singapore

Station 4 – M.Rajajeyakumar Manivel, India

ESSENTIAL SKILLS IN MEDICAL EDUCATION (ESME) COURSE
RESEARCH ESSENTIAL SKILLS IN MEDICAL EDUCATION (RESME) COURSE

ESME COURSE

Wednesday 13th January 2016 (8.30am)	*Cardinal Room, Level 3, Grand Copthorne Waterfront Hotel*
Thursday 14th January 2016	*ESME Course participants should register for one or two 13th APMEC pre-conference workshops (cost not included).*
Friday 15th (1.00pm) and Saturday 16th January (1.15pm) 2016	*Function Room 1, Level 1, University Cultural Centre*
Sunday 17th January 2016 (9.00am)	*Learning Room 01-01A, Level 1, Centre for Translational Medicine (CeTM), NUS Yong Loo Lin School of Medicine*

RESME COURSE

Wednesday 13th January 2016	*RESME Course participants should register for one or two 13th APMEC pre-conference workshops (cost not included).*
Thursday 14th January 2016 (8.30am)	*Cardinal Room, Level 3, Grand Copthorne Waterfront Hotel*
Friday 15th (1.00pm) and Saturday 16th January (1.15pm) 2016	*VIP Lounge, Level 2, University Cultural Centre*

Rationale

With the increasing professionalisation of medical education, the need for doctors and other healthcare professionals to have training in teaching is widely recognized. Whilst many institutions worldwide offer Diploma and Masters courses in medical education, there is a lack of accredited basic level courses. The ESME Programme has been designed to meet the need for an entry level teaching qualification and will be of particular interest to teachers who are engaging with medical education for the first time. It will also be valuable for more experienced teachers who have been given some new responsibilities or assignment relating to teaching or assessment, or who wish to have an introduction to the theory underpinning the practice of teaching. It has been designed in the context that all doctors in any branch of medicine or field of practice are likely to have some teaching responsibilities for undergraduates, postgraduates, peers, other healthcare workers or patients. ESME's novel course structure combines a purpose-built course on teaching with an international medical education Conference.

ESME is accredited by AMEE and approved by an international Advisory Board.

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Since the introduction of the original ESME course in 2005, several other courses have been developed to meet specific needs:

- Essential Skills in Medical Education Assessment (ESMEA)
- Research Essential Skills in Medical Education (RESME)
- Essential Skills in Medical Education Simulation (ESMESim)
- Essential Skills in Computer-Enhanced Learning (ESCEL)
- Essential Skills in Continuing Education and Professional Development (ESCEPD)
- Essential Skills in Medical Education Online (ESME Online)
- Essential Skills in Medical Education Leadership Online (ESME Leadership Online)

ESME at 13th APMEC

Two ESME Courses are offered at this Conference: (1) the original Essential Skills in Medical Education and (2) Research Essential Skills in Medical Education. Please note: it is not possible to attend more than one course at APMEC due to timing conflicts.

1. Essential Skills in Medical Education

This broad-based course has been designed around a set of competencies that all practising teachers should possess. These include: Effective Teaching, Skilled Educational Planning and Informed Assessment and Evaluation.

ESME Course schedule

Wednesday 13 January 0830-1700 - ESME Pre-conference Session:

- The Skilled Educational Planner: specifying and using learning outcomes and how the learning can be organised in a curriculum;
- The Effective Teacher: including some helpful basic principles relating to large and small group teaching; independent learning; the new learning technologies;

Thursday 14 January: *Attend other Pre-conference Workshops (cost not included)*

Friday 15 January: *Attend 13th APMEC Conference; lunch meeting with ESME Facilitators*

Saturday 16 January: *Attend 13th APMEC Conference; lunch meeting with ESME Facilitators*

Sunday 17 January 0900-1230 - ESME Post-conference Session:

- The Informed Assessor/Evaluator: the key assessment principles and the tools available to the teacher;
- The Scholarly Educator, including Professionalism in medical education; Roles of the teacher; Best Evidence Medical Education (BEME);
- A look at the requirements for completion of the ESME Certificate in Medical Education.

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ESME Course Faculty

Course Director: Professor Ronald Harden, formerly Director of the Centre for Medical Education, University of Dundee, UK, and currently General Secretary/Treasurer of AMEE and Editor of Medical Teacher;

Faculty members:

Professor Matthew C. E. Gwee, Professorial Fellow and Chairman, International & Education Programmes, Centre for Medical Education, Dean's Office, Yong Loo Lin School of Medicine, National University of Singapore

Dr Dujeepa Samarasekera, Director, Centre for Medical Education, NUS Yong Loo Lin School of Medicine, National University Health System

Associate Professor Tan Chay Hoon, Associate Professor, Department of Pharmacology, Member, Centre for Medical Education, Yong Loo Lin School of Medicine, National University of Singapore & Consultant Psychiatrist, National University Hospital, National University Health System

Associate Professor Zubair Amin, Member, Centre for Medical Education, Associate Professor, Department of Paediatrics, Yong Loo Lin School of Medicine, National University of Singapore & Consultant Neonatologist, National University Hospital

ESME Course Fee: US$ 575

Included in the course fee is:

- One full-day pre-conference session
- Two lunchtime discussion sessions with faculty during APMEC
- One half-day post-conference session
- Printed course programme
- Set of resource materials provided on USB memory stick
- Certificate of participation
- Optional submission and assessment of a post-course report, details of which will be given during the Course
- Award of ESME Certificate in Medical Education if the post-course report is assessed as meeting the requirements of the Certificate.

Please note: In addition to the ESME course fee, participants are required to register for 13th APMEC and pay the registration fee, and pay to attend one or two pre-conference workshops of their choice.

2. Research Essential Skills in Medical Education (RESME)

The RESME Course provides an introduction to the essential principles and methods of conducting research in medical education: formulating research questions, choosing a research approach, selecting an appropriate global methodology and constructing a research plan. Through a series of short presentations and small group work, this highly interactive course will introduce basic concepts and principles using a variety of examples relating to theory. After completing the course, participants will have acquired a framework for understanding and application of essential concepts and principles for research in medical education. Within six months of completion of the course,

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participants may choose to submit a short research proposal on a topic of their interest describing the application of concepts and principles covered in the course, leading to award of the RESME Certificate in Medical Education.

RESME Course Schedule

Wednesday 13 January: *Attend other Pre-conference Workshops (cost not included)*

Thursday 14 January 0830-1700: *RESME Pre-conference Session*

Friday 15 January: *Attend 13th APMEC Conference; lunch meeting with RESME Facilitators*

Saturday 16 January: *Attend 13th APMEC Conference; lunch meeting with RESME Facilitators; In-conference workshop*

RESME Course Faculty

Charlotte Ringsted (Aarhus University, Denmark) (Course Leader)

Albert Scherpbier (Maastricht University, Netherlands)

Elise Paradis (University of Toronto, Canada)

RESME Course Fee: US$ 575

Included in the course fee is:

- One full-day pre-conference session
- Two lunchtime discussion sessions with faculty during APMEC
- One in-conference workshop
- Printed course programme
- Set of resource materials
- Certificate of participation
- Optional submission and assessment of a post-course report, details of which will be given during the Course
- Award of RESME Certificate in Medical Education if the post-course report is assessed as meeting the requirements of the Certificate.

Please note: In addition to the RESME course fee, participants are required to register for 13th APMEC and pay the registration fee, and pay to attend one or two pre-conference workshops of their choice.

How to register for ESME or RESME

Participants should register for either ESME or RESME by selecting the appropriate option on the 13th APMEC registration form. It is not possible to attend more than one course due to scheduling conflicts.

Questions about the Courses

For queries specifically about ESME or RESME course content please contact AMEE:

AMEE, 12 Airlie Place, Dundee DD1 4HJ, UK
Tel: +44 (0)1382 381953; Fax: +44 (0)1382 381987; www.amee.org   Email: amee@dundee.ac.uk

FUNDAMENTALS IN LEADERSHIP AND MANAGEMENT IN EDUCATION (FLAME) COURSE
CHANGE, ADAPTABILITY, LEADERSHIP AND MANAGEMENT (CALM) COURSE

FLAME COURSE

Wednesday 13th January 2016 (9.00am)	*Falcon Room, Level 3,* *Grand Copthorne Waterfront Hotel*
Thursday 14th January 2016	*FLAME Course participants should register for one or two 13th APMEC pre-conference workshops (cost not included).*
Friday 15th (1.00pm) and *Saturday 16th January (1.15pm) 2016*	*Theatre , Level 1, University Cultural Centre*
Sunday 17th January 2016 (9.00am)	*Multipurpose Room 1, Level 3,* *Tahir Foundation Building,* *NUS Yong Loo Lin School of Medicine*

CALM COURSE

Wednesday 13th January 2016	*CALM Course participants should register for one or two 13th APMEC pre-conference workshops (cost not included).*
Thursday 14th January 2016 (9.00am)	*Falcon Room, Level 3,* *Grand Copthorne Waterfront Hotel*
Friday 15th (1.00pm) and *Saturday 16th January (1.15pm) 2016*	*Theatre , Level 1, University Cultural Centre*
Sunday 17th January 2016 (9.00am)	*Multipurpose Room 2, Level 3,* *Tahir Foundation Building,* *NUS Yong Loo Lin School of Medicine*

Rationale

Most educators and clinical teachers have some level of management or leadership responsibility, whether this is leading a team or managing a module, programme or educational activity. The need for medical and healthcare educators to have some formal management and leadership training is now widely recognised. A range of institutionally organised and Masters level courses in leadership and management are available but there is a lack of introductory, basic level courses specifically for healthcare educators. The FLAME Programme has been designed to meet the need for those who are new to the theory of leadership and management and who feel they want to gain more understanding of the skills required to lead and manage contemporary education. The FLAME course will be of particular interest to those who want to develop their understanding of leadership and apply theory to practice, including those new to education as well as those who have been given new responsibilities. The course has been designed by experienced faculty to meet the needs of educators at all stages of career and uses highly interactive activities which can be related directly

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to practice.

FLAME is accredited by ASME.

ASME has run leadership development programmes specifically for healthcare educators since 2002, including:

- FLAME (Fundamentals in Leadership and Management in Education)
- DLH (Developing Leaders in Healthcare Education)
- 'Dean's retreat' (a two-day experiential course for Deans of Healthcare Education)
- Masterclasses in change management
- FLAME and CALM (Change, Adaptive leadership and Management) at international conferences (including ASME, APMEC, AMEE, Ottawa)

Fundamentals in Leadership and Management in Education (FLAME) Course

This introductory course has been designed around a set of core skills and understandings that leaders and managers in education should possess. These include:

- Leadership and management: understanding the differences between leadership and management and key activities required under each of these;
- Leadership theory to practice: understanding key leadership frameworks and how these apply to the practice of a healthcare education leader/manager;
- Developing and communicating the vision: creative ways of setting a vision for change and communicating this to others;
- Developing self as leader, developing self-insight, goal setting and action planning.
- Post-course report: Participants may choose to submit, within six months of completion of the course, a short report describing the application of the concepts and principles covered in the FLAME Course to their own leadership and management, leading to award of the ASME-FLAME Certificate in Fundamentals of Leadership and Management in Education.

Course schedule:

Wednesday 13 January 2016: 0900-1600

Friday and Saturday 15 and 16 January 2016 – facilitated lunchtime meeting during main conference

Sunday 17 January 2016: 0900 - 1230

FLAME Course Faculty:

Associate Professor Paul Jones, Programme Director, Graduate Entry Medicine Programme, Swansea University. UK

Professor Kirsty Forrest, Director of Medical Education Macquarie University, Australia

Assoc Prof Claire Vogan, Director of Student Support and Guidance, Swansea University, UK

Plus additional experts

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Course Administrator: Nicky Pender, ASME

FLAME Course fee: US$575

Includes:

- One full-day pre-conference session (13 January 2016)
- Printed course programme
- Workbook
- Set of additional resource materials accessed via a dedicated section on the ASME website
- Certificate of participation
- Two facilitated lunchtime meetings during the main conference (15 and 16 January 2016)
- A half day post conference workshop (17 January 2016)
- Optional submission and assessment of a post-course report, details of which will be given during the Course;
- Award of ASME FLAME Certificate if the post-course report is assessed as meeting the requirements of the Certificate.

Please note: In addition to the FLAME course fee, participants are required to register and pay the registration fees for 13th APMEC main conference and one or two pre-conference workshops of their choice.

Change, Adaptability, Leadership and Management (CALM) Course

This course provides an introduction to the key concepts of change and adaptability for healthcare educators who wish to develop a deeper understanding of leadership and management theory, how to manage change and gain an evidence base to help them become more effective leaders.

The workshop and its linked lunchtime and post-conference sessions comprise interactive group activities, short presentations, and individual exercises aimed towards gaining insight into how change can be planned for, managed and led from personal, interpersonal and organisational perspectives. Core topics include the leader as an agent of change; psychological responses to change; models of change management; leading teams through change; change in complex organisations and contexts; setting personal goals and action planning.

Course schedule:

Thursday 14 January 2016: 0900-1600

Friday and Saturday 15 and 16 January 2016 – facilitated lunchtime meeting during main conference

Sunday 17 January 2016: 0900 - 1230

CALM Course Faculty:

Professor Judy McKimm, Professor of Medical Education, Swansea University UK and Director of the ASME Educational Leadership Programme

Associate Professor Paul Jones, Programme Director, Graduate Entry Medicine Programme, Swansea University. UK

Plus additional experts

Course Administrator: Suzette A MacGregor, ASME

CALM Course fee: US$575

Includes:

- One full-day pre-conference session (14 January 2016)
- Printed course programme
- Workbook
- Set of additional resource materials accessed via a dedicated section on the ASME website
- Certificate of participation
- Two facilitated lunchtime meetings during the main conference (15 and 16 January 2016)
- A half day post conference workshop (17 January 2016)
- Optional submission and assessment of a post-course report, details of which will be given during the Course;
- Award of ASME CALM Certificate if the post-course report is assessed as meeting the requirements of the Certificate.

Please note: In addition to the CALM course fee, participants are required to register and pay the registration fees for 13th APMEC main conference and one or two pre-conference workshops of their choice.

W1A1

Wednesday 13th January 2016, 8.00am – 12noon
Paradiso Room, Level 3, Grand Copthorne Waterfront Hotel

ASSESSING TEACHER PERFORMANCE

John Norcini
USA

Workshop Description

The quality of health professions education is an issue of ongoing concern in many countries and central to it are the teaching skills of faculty. Methods for assessing and improving such skills are in their infancy, but many of those in use are the same as, or variations on, workplace-based assessments that are used with students, trainees, and practicing doctors. This workshop will survey these methods and discuss a variety of issues in their deployment. Active involvement will be encouraged throughout and small group exercises will focus on making judgments about actual teaching portfolios.

W1A2

Wednesday 13th January 2016, 8.00am – 12noon
Galleria I Room, Level 3, Grand Copthorne Waterfront Hotel

HOW TO PREPARE YOUR STUDENTS FOR TEAM-BASED LEARNING AND SUPPORT THEM THROUGH THE PROCESS

Preman Rajalingam, Claire Ann Canning, Wong Teck Yee, and Naomi Low-Beer
Singapore

Workshop Description

Team-Based Learning (TBL) is a highly structured approach to learning, where students come to class prepared through pre-class self-learning. Time in-class is used for sharing, discussions and application of knowledge to authentic tasks, in teams. Whilst some educators have considered TBL to be a variation of collaborative or co-operative learning, it is now generally accepted that TBL has distinctive underpinning principles (Davidson, Major, Michaelsen, 2014). These principles include the need for effective preparation and support of students, both individually and in their teams.

The Lee Kong Chian School of Medicine (LKCMedicine), a partnership between Nanyang Technological University and Imperial College London, is Singapore's newest medical school. It enrolled its first batch of students in August 2013. TBL is its anchor pedagogy and completely replaces traditional didactic teaching in the first 2 years of the 5-year MBBS programme. The entire progamme was designed from the ground up with preparation and support of students as core tenets. During this workshop participants will experience TBL and develop an understanding of the integrated approaches used by LKCMedicine to prepare students for TBL and support them through the TBL process. Following this session, participants should be able to adapt these approaches to fit their own teaching and learning context.

Wednesday 13th January 2016, 8.00am – 12noon

Galleria II Room, Level 3, Grand Copthorne Waterfront Hotel

TIPS AND TRICKS FOR SUCCESSFULLY PUBLISHING SCHOLARLY WORK IN AN INTERNATIONAL JOURNAL ON MEDICAL EDUCATION

Peter G.M. de Jong and Julie K Hewett
USA

Workshop Description

In publishing scholarly work it is important choosing the right strategy in submitting the work to the most appropriate journal. The session will give the attendees more insight in the editorial processes of a journal and several concrete strategies to increase the chances of acceptance of their work.

W1A4

Wednesday 13th January 2016, 8.00am – 12noon

Swallow Room, Level 3, Grand Copthorne Waterfront Hotel

MENTORING FOR SUCCESS IN YOUR EDUCATIONAL PROGRAMMES

Shirley Ooi, Marion Aw, Clement Tan, Raymond Goy
Singapore

Workshop Description

Mentoring is a dynamic reciprocal relationship, aimed at promoting the development of both the mentor and the mentee. Good mentoring is one of the pillars of successful professional and personal development. It is also one of the key factors in making a good educational programme to a great one! Not all of us may have had the opportunity to experience good mentoring, and not many of us naturally possess all the traits of a good mentor. The good news is that mentoring is a skill and, like all skills, can be learnt, developed and perfected.

The aim of this workshop is to allow participants to share ideas and best practices through interactive case discussions. We will explore the various types of mentor-mentee relationships and how to maximise them, stages of mentoring, as well as how to overcome some of the common difficulties faced in mentoring. Participants will leave the workshop challenged to improve on and excel in their mentoring relationships, and motivated by the new ideas and skills they will have acquired.

W1A5

Wednesday 13th January 2016, 8.00am – 12noon
Galleria III Room, Level 3, Grand Copthorne Waterfront Hotel

INTERPROFESSIONAL EDUCATION (IPE) - BRIDGING THE GAP BETWEEN EDUCATION AND THE WORKPLACE

Wong Mun Loke, Calvin Ho, Chui Wai Keung and Nicola Ngiam
Singapore

Workshop Description

The delivery of present patient care is often multi-disciplinary in nature and involves close collaboration between different healthcare professionals. As such, the introduction of interprofessional education (IPE) programs into undergraduate health professional programs aim to increase students' awareness, to prepare them for future interprofessional collaborations as well as to increase such collaborative activities of practitioners in the workplace.

Through this workshop, participants will be able to learn not just the importance of interprofessional education in the curriculum but will also learn to assess and evaluate outcomes for IPE to work out progress in the curriculum. Participants will also learn to make IPE come to life in actual practice as well as ways to promote IPE in the workplace. With this, outcome gained through such interprofessional activities can be used to bridge the gap between education and the workplace.

W1P1

Wednesday 13th January 2016, 1.00pm – 5.00pm
Paradiso Room, Level 3, Grand Copthorne Waterfront Hotel

WORKPLACE-BASED ASSESSMENT: EVIDENCE-BASED PRACTICES

John Norcini
USA

Workshop Description

The goal of this session is to familiarize the participants with some of the formative workplace-based assessments methods currently being used, with a focus on mini-CEX. It will highlight the importance of formative assessment in learning, review some of the research on the methods, present a model for faculty development, and describe some of the current research on feedback to trainees. Active participation will be encouraged throughout and small group activities will focus on developing a faculty consensus on assessment standards and using the methods to provide effective feedback to trainees.

W1P2

USING MIND MAPS AS A TEACHING AND LEARNING TOOL TO ENHANCE CLINICAL RELEVANCE AND PROMOTE STUDENT ENGAGEMENT

Indika Karunathilake
Sri Lanka

Workshop Description

From teaching and learning to assessment, there are countless opportunities that mind maps offer for medical education. A mind map is a visual way of illustrating links between different areas under a given topic. Within a mind map, the major categories radiate from a central concept or topic, and the other categories are linked as branches sprouting out of this central concept. In relation to clinical teaching, these links can be drawn to show relationships between different areas such as pathophysiology, patient management, disease prevention, socio-economic aspects, ethics and professionalism and thereby showing the clinical relevance of each of these aspects.

The benefits of mind maps in clinical learning include improving learners' competency in problem solving, critical thinking, clinical reasoning, decision making, leadership and teamwork. Through these benefits, mind mapping offer a more holistic, value-added and high quality clinical teaching and learning strategy, highly appropriate in the context of health professions education. This allows clinical topics to be more interesting to students and makes both learning and teaching more engaging and enjoyable.

This workshop explores how a clinical teacher can apply mind mapping technique to demonstrate clinical relevance and student engagement in learning. It is planned as a participant driven workshop with interactive discussions and hands on activities simulating real life teaching situations.

W1P3

Wednesday 13th January 2016, 1.00pm – 5.00pm
Galleria II Room, Level 3, Grand Copthorne Waterfront Hotel

HEALTHCARE IN THE 21ST CENTURY – ENVISIONING THE PROFESSIONAL FOR TOMORROW'S HEALTHCARE (PTH)

Nicholas Chew, Yvonne Ng and Winnie Teo Li-lian
Singapore

Workshop Description

These are challenging times for healthcare – factors such as the rise of chronic illness, the preponderance of ageing populations, the increasing complexity of healthcare delivery systems, coupled with escalating costs and rising expectations, all converge to make the present modus operandi of healthcare delivery unsustainable.

In the midst of such uncertainty, it is clear that a drastic redesign of education and healthcare delivery systems is inevitable. Who, then, is the ideal person who will be able to navigate the transformed healthcare landscape that emerges from such reform?

The National Healthcare Group Education Office, in consultation with both educators and practitioners of healthcare in Singapore, has devised a model that encapsulates the important attributes needed for a professional for tomorrow's healthcare (PTH). The attributes encompassed in the HPF model include: ethics and professionalism, core and team capabilities, future-oriented thinking and leadership.

This workshop is part of a continuous, but necessary, colloquy to articulate the capabilities that educational and training programmes need to endow future healthcare professionals with.

The workshop will be structured using design-thinking principles, such as user empathy, problem framing and ideation. Participants will discuss the attributes that they feel will be important in the healthcare industry of the future, and visualize their own version of the healthcare worker of the future. The PTH model will then be presented, and its evolution, rationale and components explained. Participants will be invited to share their views on the PTH model: ranging from the attributes encapsulated within, to the applicability of translating these attributes into educational and/or training curricula. It is hoped that the consensus forged, as well as the disparate views aired in these discussions, will carry the discourse on envisioning a new healthcare model, forward.

The workshop welcomes all stakeholders in medical education, especially those involved in curriculum planning, and invites views from the continuum of healthcare professions.

W1P4

Wednesday 13th January 2016, 1.00pm – 5.00pm

Swallow Room, Level 3, Grand Copthorne Waterfront Hotel

ENHANCING AND ENRICHING LEARNING IN TBL THROUGH EFFECTIVE FACILITATION

Ha Tam Cam & Cook Sandy
Singapore

Workshop Description

Effective facilitation skills are able to enhance any student learning experience. This workshop, run in a Team-based Learning (TBL) fashion, will review the important elements of facilitation and how higher learning levels of Bloom's taxonomy can be achieved through effective facilitation. Pre-work assignments will be given to the participants to help them prepare for the activities.

W1P5

Wednesday 13th January 2016, 1.00pm – 5.00pm

Galleria III Room, Level 3, Grand Copthorne Waterfront Hotel

TIPS TO INCORPORATE SOCIAL RESPONSIBILITY/ACCOUNTABILITY INTO THE MEDICAL SCHOOL CURRICULUM

James Rourke
Canada

Workshop Description

Participants will learn tips to incorporate Social Responsibility/Accountability (SR/A) into their medical school curriculum by sharing and discussing their school's current and planned SR/A learning activities as well as examples from award winning Aspire-to-Excellence Schools.

W2A1

Thursday 14th January 2016, 8.00am – 12noon
Paradiso Room, Level 3, Grand Copthorne Waterfront Hotel

A GLIMPSE BEHIND THE CURTAIN: TIPS FOR PUBLISHING IN HEALTH PROFESSIONAL EDUCATION JOURNALS

Kevin Eva
Canada

Workshop Description

The goals of this workshop will be to provide authors (or potential authors) with a better understanding of what makes a good paper, where the common pitfalls lie with respect to writing and submitting papers, and what goes on 'behind the scenes' of the publication process. The potential benefits include an increased understanding of what it takes to publish in medical education journals specifically and the scientific literature more broadly.

Workshop participants will be asked to consider the following questions and issues: (1) What problems are commonly encountered, (2) What makes a good paper? Why do papers get accepted or rejected? (3) What happens to a paper during the review process? (4) Issues of style; (5) Ethical aspects of publication.

W2A2

Thursday 14th January 2016, 8.00am – 12noon

Galleria I Room, Level 3, Grand Copthorne Waterfront Hotel

ASPIRE ASSESSMENT WORKSHOP

[1]Trudie Roberts, [2]Katharine Boursicot, [2]Dujeepa D Samarasekera

[1]*United Kingdom and* [2]*Singapore*

Workshop Description

Pre-conference workshop for those wishing to apply for the ASPIRE Award for international excellence in medical, dental and veterinary schools

http://aspire-to-excellence.org

This workshop is aimed at medical/dental/veterinary school staff who are involved in student assessment and whose institutions are considering applying for an ASPIRE Assessment award.

To get the most out of this workshop it is recommended that a small group of staff attend equipped with an in depth knowledge of their own assessment programme.

Outcomes

At the end of this workshop attendees will have gained familiarity with the application process and in-depth understanding of the criteria for the assessment award.

Attendees will have also had the opportunity to consider how they will gather evidence of excellence from their own institutions and identify areas where further development is required to achieve excellence.

Outline

- Interactive talk on the Aspire Assessment review process
- Examination of the assessment panel criteria – supported group work
- Discussion of the types of evidence required – supported group work
- Identification of areas for further development – supported group work
- Plan for next steps – supported group work
- Final Q&A session – whole group

W2A3

Thursday 14th January 2016, 8.00am – 12noon
Galleria III Room, Level 3, Grand Copthorne Waterfront Hotel

SUPPORTING EDUCATORS TO ENGAGE IN RESEARCH IN MEDICAL EDUCATION (RIME) IN THE ASIA PACIFIC REGION

[1]Gominda Ponnamperum and [2]Hiroshi Nishigori

[1]Sri Lanka and [2]Japan

Workshop Description

Educational research, like any socially constructed activity, needs to be situational and contextual. This means that not only the broad principles of conducting research needs to be contextualized, but the findings of such research also should be interpreted and applied in the light of the local context.

Most research in medical education has been conducted in western countries. When applying the research methods to another socio-cultural setting there may be a need to modify some of the methodological applications. Similarly, when interpreting the results of these studies in another socio-cultural context, they need to be interpreted with the local context in mind. Young researchers find this more challenging in medical education than in any other field as they are called upon to do two tasks: first understand the principles of educational methodologies and the findings of such methodologies; and then to contextualize it to the local setting. Teaching this to the young researcher is also challenging to a mentor or supervisor. One of the core-objectives of Asia Pacific Medical Education Network (APME-Net) is to support researchers in the Asia and Pacific regions to contextualize research methods and their findings originated in an alien setting, to their own setting. The first part of this workshop explores the strategies, methods and models that could be used to guide young researchers to contextualize both the research methods and findings to their own context.

With the objective of exploring strategies and methods helpful to young researchers in the region to contextualize research, APME-Net has planned a series of meetings. In these meetings the researchers present their ongoing work and get feedback from a wider network of researchers. The first such meeting, named First Hongo Meeting was held in Niigata, Japan in July 2015. As an extension of this meeting, the second part of this pre-conference workshop would be a similar meeting, where the workshop participants will have the opportunity to discuss and apply some of the methods helpful to guide a young researcher to a real-life situation. In this session, a young researcher would present an ongoing research that they carry out and discuss the problems that they face when carrying out such research. The participants will then discuss how the strategies and methods identified in the first part of the workshop would be useful when guiding this young researcher.

Objectives:

At the end of the workshop, the participants should be able to:

1. Discuss the problems that a young researcher may find when conducting research in medical education in the Asia-Pacific region

2. Identify methods to guide a young researcher to contextualize methodologies developed in western countries to their own context

3. Identify methods to guide a young researcher to contextualize findings generated through research carried out in western countries to their own context

4. Explore the application of some of the methods identified in the light of a real-life example

Who should attend this workshop?

• Young researchers in Asia-Pacific region

• Research supervisors who supervise researchers from the Asia-Pacific region (from anywhere in the world)

• Those who have the intention of or those who are already collaborating with researchers in Asia-Pacific region

W2A4

Thursday 14th January 2016, 8.00am – 12noon

Swallow Room, Level 3, Grand Copthorne Waterfront Hotel

MAKING SENSE OF RESEARCH ON USING TECHNOLOGY TO ENHANCE TEACHING AND LEARNING

[1]John Sandars and [2]Poh-Sun Goh

[1]United Kingdom and [2]Singapore

Workshop Description

There are an ever increasing number of research studies about using technology to enhance teaching and learning. However, how can this research be applied to ensure that a similar impact can be translated to another context? This workshop will explore, through a series of short demonstrations and practical sessions, the importance of understanding program theory, usability, transferability and scalability.

W2A5

Thursday 14th January 2016, 9.00am – 5.00pm

Computer Lab 2, Level 8, Block MD1
Tahir Foundation Building
Yong Loo Lin School of Medicine
National University of Singapore
12 Science Drive 2, Singapore 117549

USING SPSS FOR DATA ANALYSIS

Chan Yiong Huak
Singapore

This course uses SPSS to understand the statistical analysis for research data. Setting up a database in SPSS and importing Excel files will be discussed. Basic applications using SPSS commands to compute new variables, selecting subsets, subgroup analysis and recoding will be illustrated. Basic and intermediate statistical techniques will be discussed, pertaining to proper result presentation for pulications.

W2P1

Thursday 14th January 2016, 1.00pm – 5.00pm

Paradiso Room, Level 3, Grand Copthorne Waterfront Hotel

USING THE CLINICAL REASONING LITERATURE TO IMPROVE THE USE OF SUBJECTIVITY IN ASSESSMENT

Kevin Eva
Canada

Workshop Description

The study of clinical reasoning has a long and illustrious history in medical education. The same can be said for research into assessment practices. In both cases concern has been expressed about errors that can arise from subjectivity, but rarely have the two literatures been juxtaposed to determine how clinical and educational practice might be improved through combination of the insights these studies have generated. Typical concerns about subjectivity centre around biases created by physician expectations and around assessments being influenced by candidate characteristics unrelated to performance. The general view that judgment ranges from fallible to non-credible, however, is incommensurate with growing bodies of evidence that suggest subjective data can be more reliable, more meaningful, and more useful in practice than data derived from poorly designed or poorly executed "objective" information. Persistent challenges include designing subjective assessments that are meaningful and developing scoring rules that can either yield useful feedback or support defensible selection decisions. In this workshop we will discuss the definition of subjectivity, review the evidence regarding its use, and explore ways in which knowledge of clinical reasoning can be used to improve the strategies that are evolving for the sake of optimizing assessment practices.

W2P2

Thursday 14th January 2016, 1.00pm – 5.00pm
Galleria I Room, Level 3, Grand Copthorne Waterfront Hotel

WHAT IS INVOLVED IN UNDERGOING ACCREDITATION?

[1]Michael Field, [2]Pete Ellis, [3]Xian Wang, [4]Nobu Nara, [5]Ki-Young Lim, [6]Tserenkhuu Lkhagvasuren and [7]David Gordon

[1]Australia, [2]New Zealand, [3] China, [4]Japan, [5]Korea, [6]Mongolia and [7]France

Workshop Description

This workshop will give participants the opportunity to learn what is involved for a medical school in undertaking a typical accreditation process. Experienced educators from New Zealand, China, Japan, Korea and Mongolia will highlight aspects of their own experience as a faculty member of a school undergoing accreditation, and/or as a member of an accreditation expert team. The following components of the accreditation cycle will be considered: writing the self-evaluation report, preparing for the site visit, interacting with assessors during the visit, implementing recommendations of the expert report. In addition to hearing brief formal presentations, attendees will take part in small group sessions during which there will be an opportunity to ask questions of the experts, and to role-play various interpersonal interactions involved in the process. The Workshop will be presented by members and affiliates of the Association for Medical Education in the Western Pacific Region, with participation by the President of the World Federation for Medical Education.

Thursday 14th January 2016, 1.00pm – 5.00pm
Galleria III Room, Level 3, Grand Copthorne Waterfront Hotel

IT'S NOT THE SAME EVERYWHERE: DESIGNING PROFESSIONALISM CURRICULUM WITH CULTURE IN MIND

Ming-Jung Ho
Taiwan

Workshop Description

While professionalism is a required competency in medical education around the world, there have been few professionalism curricula that take into consideration cultural differences across institutional and national contexts. The purpose of this workshop is to help medical educators to design professionalism curriculum with cultural context in mind.

Who should attend?

This workshop will be of interest to medical educators who are interested in designing and implementing professionalism curriculum that are responsive to local contexts and cultures.

Structure of workshop

The workshop will begin with a literature review of current status of professionalism curricula, followed by a case study from a Confucian cultural context. Participants will then engage in table exercises to define outcomes of professionalism curricula with the consideration of cultural factors in curriculum design. Small groups of educators will work together to develop professionalism curricula according to the outcomes and share the results of their exercises among all workshop participants. Once this process is complete, the larger group of participants will brainstorm collaborative research projects that might be implemented across their respective institutions and cultures.

Intended outcomes:

We envision that participants will:

- Advance their knowledge of professionalism curriculum
- Design professionalism curriculum projects
- Identify cultural factors that might affect professionalism curricula
- Network with educators who have similar interests, leading to potential collaboration on future cross-cultural research projects

Level

The target audience encompasses attendees of all levels.

W2P4

Thursday 14th January 2016, 1.00pm – 5.00pm
Swallow Room, Level 3, Grand Copthorne Waterfront Hotel

STRENGTH-BASED APPROACHES TO PROFESSIONALISM

[1]Anita Ho & [2]Linying Hu, [3]Nandini Kumar and [1]Thirumoorthy Thamotharampillai

[1]*Singapore,* [2]*China and* [3]*India*

Workshop Description

This workshop contrasts various methodologies in teaching professionalism to medical students, and focuses on strength-based approaches as potentially more effective methods in empowering learners to develop and exhibit appropriate attitudes and behaviours. The facilitators will use examples from their respective institutions in Singapore and India in illustrating various approaches in supporting students' process of identity formation and in enhancing life-long learning for practitioners.

NATIONAL ASSESSMENT PROGRAMS AND THE QUALITY OF CARE

John Norcini
President and CEO, Foundation for Advancement of International Medical Education and Research (FAIMER®), USA

National assessment programs are of growing importance around the world. However, they remain controversial and there is considerable skepticism that they are effective tools for screening healthcare providers. This talk will present evidence that such programs are actually associated with better patient outcomes. It will also provide a rationale, based in research, that they are important throughout the careers of healthcare providers.

Friday 15th January 2016, 9.45am
Hall, Level 1, University Cultural Centre

AMEWPR SYMPOSIUM ON ENHANCING QUALITY IN MEDICAL EDUCATION THROUGH ACCREDITATION

[1]David Ellwood, [2]Ducksun Ahn, [3]Chi-Wan Lai, [4]Alfaretta Reyes, and [5]David Gordon

[1]Professor of Obstetrics & Gynaecology, Griffith University School of Medicine; and Chair, Medical Schools Accreditation Committee (AMC), Australian Medical Council (AMC), Australia, [2]Professor, College of Medicine; and President, Korean Institute of Medical Education and Evaluation, Republic of Korea, [3]Attending Neurologist, Koo Foundation Sun Yat-Sen Cancer Center, Taiwan, [4]Emeritus Professor and Dean, College of Medicine, University of the East Ramon Magsaysay Memorial Medical Center, Inc., Philippines, [5]President, World Federation for Medical Education, France

This Symposium will provide perspectives from four regional countries (Australia, Korea, Taiwan and the Philippines) on the effectiveness of systematic national medical school accreditation processes in bringing about quality assurance and quality improvement in basic medical education. While the principles and procedures involved in accreditation are generally well known, only quite recently has preliminary evidence emerged of the impact of accreditation on performance and outcomes, for both medical schools and their graduates. The Symposium will be presented by members of the Association for Medical Education in the Western Pacific Region, with participation by the President of the World Federation for Medical Education.

PANEL DISCUSSION 1 – CARING FOR STUDENTS AND TEACHERS – PREVENTING BURNOUT

Engagement, Psychological Safety and Burnout
Nicholas Chew, Singapore

Four Phenotypes of Burnout: A Student's Viewpoint
Nigel Fong, Singapore

Systematic Care for At-Risk Students: The Application of Holistic Approach Concept
Danai Wangsaturaka, Thailand

Care in the Learning Environment
Jørgen Nystrup, Denmark

Friday 15th January 2016, 9.45am
Theatre, Level 1, University Cultural Centre

ENGAGEMENT, PSYCHOLOGICAL SAFETY AND BURNOUT

Nicholas Chew
Group Chief Education Officer, and Designated Institutional Official, NHG-AHPL Residency, National Healthcare Group (NHG), Singapore

Background:

In "The Suffering of Physicians" (Lancet 2009, Cole TR, Carlin N), the authors wrote that "There are many signs that being a physician today is not good for your health". Indeed there is much evidence to suggest that medical students, residents and faculty are equally likely to suffer from burnout in the course of their careers.

Maslach and Leiter (1996) described the phenomenon of burnout as consisting of three domains; emotional exhaustion, depersonalisation and reduced personal accomplishment and poetically described it as the "index of dislocation between what people are and what they have to do". They alluded to "engagement" as a prevention strategy (The Truth about Burnout, Maslach and Leiter 1997) in writing that

"…it is far too costly to tolerate the erosion of burnout. The only alternative, for both economic and humane reasons, is to build engagement with work."

Methodology:

Kahn (1990) described a model of three psychological conditions as antecedents of engagement. The presenter proposes that this model provides a relevant framework for us to consider the management of burnout in medical and graduate medical education. The relevance of each psychological condition in medical education is explored.

Discussion:

"Psychological Meaningfulness" reminds medical educators of the importance of the purpose and personal meaning in the design of the working and learning environment. There is a need to constantly link work and learning to the ethos of medicine and the life changing benefits they can provide to their patients. "Psychological Availability" reminds us to pay close attention to the cognitive load the learners carry, not just from the work environment but also from the various facets of their lives. "Psychological Safety" reminds us that perhaps the most important part of teaching well is treating the learner well by creating learning environments that are safe for questions, mistakes and innovation.

PD1

Friday 15th January 2016, 9.45am
Theatre, Level 1, University Cultural Centre

FOUR PHENOTYPES OF BURNOUT: A STUDENT'S VIEWPOINT

Nigel Fong
Medical Student, Yong Loo Lin School of Medicine, National University of Singapore, Singapore

In this session, Nigel, a final-year medical student, offers the student's viewpoint on burnout.

A myriad of stressors, coupled with unhealthy coping mechanisms, can lead to student burnout. Therefore, burnout is a common endpoint of dis-similar pathways. Understanding these pathways aid in finding solutions.

Through case vignettes based on real-life anecdote, this session will discuss the pathogenesis and manifestations of four distinct burnout phenotypes:

a)   A [alpha-type]: the high-achiever who burns out competing for very limited residency (training) openings.

b)   B [bothered]: the idealist in exile in a cynical clinical world, upon whom dawns the epiphany that he cannot save the world.

c)   C [conflicts]: the student worn down by insurmountable interpersonal conflicts in his/her clinical group.

d)   D [drowning]: the discouraged student trapped in a vicious cycle of poor results > loss of confidence > ineffective learning habits and unhealthy coping mechanisms > poorer results.

This session will then explore an analysis of predisposing, perpetuating, precipitating, and protective factors behind the individual student's burnout, identifying strategies for intervention, both in the individual case, as well as in areas generalizable to the overall student pool.

Friday 15th January 2016, 9.45am

Theatre, Level 1, University Cultural Centre

SYSTEMATIC CARE FOR AT-RISK STUDENTS: THE APPLICATION OF HOLISTIC APPROACH CONCEPT

Danai Wangsaturaka
Lecturer, Faculty of Medicine, Chulalongkorn University, Thailand

Holistic approach is one of the learning outcomes our medical students are expected to achieve. According to Thai Medical Council's 2002 Standard for Medical Practitioners, it is composed of three dimensions. The first dimension is 'comprehensive care' which includes early diagnosis, prompt treatment, rehabilitation, disease prevention, and health promotion. The second dimension is the 'bio-psycho-social-spiritual' model; and the third dimension is individual, family and community aspects of patient care.

During the Annual Curriculum Seminar of the Faculty of Medicine, Chulalongkorn University in 2006, the Dean (Professor Pirom Kamolratanakul) suggested the undergraduate curriculum committee to apply the concept of holistic approach into the care of students in difficulty. Since then, his idea has been put into actions and developed into the comprehensive framework to detect and manage at-risk students holistically.

Key stakeholders in the framework involve the curriculum committee, the student affairs, the student mentoring committee, psychiatrists, parents and the student union. In addition to the interventions for secondary prevention and rehabilitation, various strategies have been implemented by the academic affairs, the office of the educational innovation and information technology, and the student union to promote student learning and create friendly learning environment.

This system will be effectively functional when communication among the key stakeholders is seamless. However, it is essential for all parties to keep student information strictly confidential.

Friday 15th January 2016, 9.45am

Theatre, Level 1, University Cultural Centre

CARE IN THE LEARNING ENVIRONMENT

Jørgen Nystrup
Doctor, Psychiatry, Zealand Region, Denmark

Starting with foundation remarks by Carl Rogers and Eric Berne I will remind the audience of some basic communication techniques to enhance relationships. Hillary Jasons changing of pedagogic perspective from Prescriptive, Controlling, Information Domineering and Assessment oriented to Diagnostic, Facilitating, Information Subservice and Self-assessment are presented. The Learning environment is dependent on a functioning team. Patrick Lencioni's pyramid of Results, Accountability, Commitment, Conflict handling and Trust are pointed out. Care in the learning environment is complex. The many spaces for creating Meaning, Feeling, Communication, existence and insight are illustrated. I am reminding the audience of Martin Bubers important discrimination of a relationship between humans and a relationship between humans and objects. Four classical psychoanalytic concepts of relationship are pointed out. Care in the supervision process is listed. Finally Norman Kagan's Response Modes are shared as a tool box for precise communication eliciting freedom and trust amongst both students and teachers.

FREE COMMUNICATION 1 - FACULTY DEVELOPMENT

Statistical Innumeracy of Physicians and Inadequate Presentation of Evidence in Educational Programs
Michael Allen, Canada

The Use of Whatsapp to Create "Mobile Learning Bubbles"
Teoh Chia Meng, Singapore

Medical and Physiotherapy Undergraduates' Perception on the Importance of Roles and Qualities of a Medical Teacher
Akalanka Hettihewa, Sri Lanka

'World Café–Like' Faculty Development Yields More Purposeful Products and Desired Educational Outcomes: A Short-Term Action Research Project
Ikuo Shimizu, Japan

Actively Shaping Education and Clinical Teaching Tasks: Job Crafting by Clinical Teachers
Joost Van Den Berg, The Netherlands

Professionalism: Developing Your Own Teaching and Faculty Development Modules to Suit Your Multi-Cultural Context
Amal Khidir, Qatar

STATISTICAL INNUMERACY OF PHYSICIANS AND INADEQUATE PRESENTATION OF EVIDENCE IN EDUCATIONAL PROGRAMS

[1]*Allen M*, [1]*MacLeod T*, [2]*O'Brien B*, [3]*Hollway G*, [1]*Hazelton L*, [2]*Simpson D*, [4]*Lightfoot K*

[1]*Continuing Professional Development, Faculty of Medicine, Dalhousie University, Canada, Departments of [2]Medicine and [3]Family Medicine, Faculty of Medicine, Dalhousie University, Canada, [4]Faculty of Medicine, Dalhousie University, Canada*

Aims

Comprehension of statistical terms is essential for evidence-based medical teaching and practice. Studies have shown that clinicians without statistical literacy may consider therapy more effective, and may be more likely to make practice changes when data are presented in relative terms (relative risk reduction [RRR]) rather than in absolute terms (absolute risk reduction [ARR], number needed to treat [NNT]).

Since 2007, we have conducted several research projects analyzing how evidence is presented in medical education programs that provide therapeutic recommendations. We have also surveyed teachers and learners to determine their knowledge of basic statistical terms such as RRR, ARR and NNT. This presentation will synthesize the results of these projects.

Methods

We video recorded and analyzed presentations at large family medicine conferences and a national internal medicine conference to determine the number of slides with data in relative and absolute terms. We are now conducting a similar analysis of presentations used in academic teaching of family medicine residents. We also surveyed teachers and learners about their self-assessed knowledge of statistical terms and asked them to calculate RRR, ARR and NNT based on a hypothetical randomized clinical trial.

Results

Overall, we analyzed 1915 slides from 40 presentations. In continuing medical education programs, most teachers support their therapeutic recommendations with some research data. However over 80% of this research data is presented in general terms such as graphs, p-values with no data, frequencies, or percentages. Approximately 20% to 30% of research data was presented in relative terms such as relative risk, odds ratio or hazard ratio. Only about 5% of research data was presented in absolute terms such as ARR and NNT.

Overall, we received 489 responses to the questionnaire (response rate 12% to 50%). Respondents rated their knowledge of hazard ratio the lowest (15% thought they knew the term well enough to explain to others) and NNT the highest (67% thought they knew the term well enough to explain to others). Approximately 50% of respondents felt they knew RRR, ARR, and confidence intervals well enough to explain to others. Approximately 50% were able to calculate RRR, ARR, and NNT correctly.

Conclusion

In educational programs there is inadequate presentation of statistical information to allow learners to make fully informed therapeutic decisions. There should be more emphasis on presenting results of clinical trials in absolute as well as relative terms. Teachers and learners have inadequate knowledge of statistical terms with only about 50% being able to perform basic calculations. This has implications for all levels of medical education including faculty development.

THE USE OF WHATSAPP TO CREATE "MOBILE LEARNING BUBBLES"

Teoh CM, Ng J, Kee A, Phua J, Lim TK
Department of Medicine, National University Hospital, National University Health System, Singapore

Aims

WhatsApp (Mountain View, California) is an instant messaging application for smartphones. It has a Group Chat feature that permits the creation of a real-time discussion group. This feature has been used by surgical teams to facilitate communication in the acute patient care setting. However, this tool has not been evaluated in a pure clinical learning environment. The aim of this study is to assess the application of the WhatsApp Group Chat function in enhancing learning following the daily morning bedside round.

Methods

WhatsApp group chats were set up by medical teams comprising supervisors (consultant physicians and fellows) and several trainees (residents, medical students and advanced practice nurses). Participants were instructed to adhere to the following rules: (1) Messages are strictly for the purposes of education and not to direct daily work or disseminate medical orders; (2) Messages are to focus on work-based problems and not theoretical discussions; (3) Trainees are to question their supervisors on points that they are uncertain of, to probe for alternative options in both diagnosis and management plans, to use structured reflection for contrasting cases, and to demonstrate the deliberate practice of progressive problem solving to facilitate self-improvement; (4) Supervisors are to facilitate the group chat to generate meaningful learner-centered discussion, to actively encourage trainees to list learning points, and to provide regular and consistent feedback to participants. At the end of the scheduled service period, each team's group chat log was downloaded and analyzed. Each message related to education was classified as a Question (specific enquiry by supervisor or trainee), Answer (response to a specific question), Learning Point (take-home point with general applicability) or Filler (administrative message). Each message type was cross-linked to the status of the sender of the message. The number of messages related to patient care or included a patient identifier was also recorded.

Results

We analyzed the WhatsApp messages from 8 clinical teams each comprising an average of 5.4 members. A total of 293 messages were sent over the equivalent of 51 days of which 150 were related to education (mean 2.9 per day) and 38 were related to patient care. 9 inadvertently contained a patient identifier. Within the educational messages there were 23 Questions, 38 Answers, 55 Learning Points and 34 Fillers. Trainees contributed the most messages (51%) followed by consultants (33%) and fellows (16%). Trainees posted the most Learning Points whilst consultants sent an equal spread of Questions, Answers and Learning Points.

Conclusion

We found that WhatsApp group chats dedicated to educational messages enhanced work-based learning from bedside rounds by encouraging more active trainee participation and case-content specific feedback. The delay between the bedside encounter and subsequent case discussion via the mobile platform enabled reflective learning remote in time and place from the work environment. In contrast the use of WhatsApp in acute surgical services was primarily to facilitate rapid communication between busy clinicians for the purposes of patient care. We propose using WhatsApp to create "mobile learning bubbles" to enhance clinical work-based learning.

MEDICAL AND PHYSIOTHERAPY UNDERGRADUATES' PERCEPTION ON THE IMPORTANCE OF ROLES AND QUALITIES OF A MEDICAL TEACHER

Hettihewa A, Karunathilake I, Perera N
Medical Education Development and Research Centre, Medicine, University of Colombo, Sri Lanka

Aims

Faculty of Medicine, University of Colombo, Sri Lanka conducts MBBS and BSc physiotherapy degree programs based on an innovative and student-centered approach. This context involves diverse learners, a range of teaching/learning methods and settings where the faculty has to play diverse roles. A medical teacher should possess a range of qualities to fulfill these roles. Looking at these roles and qualities from a student's perspective will help the faculty understand what students perceive as important and what they expect from teachers. This in turn will lead to more effective faculty development programs.

Methods

Professor Harden's (2000) paper on 12 roles of a medical teacher was the conceptual framework for this study. According to this framework, being a lecturer in class room, teacher in clinical /practical setting, On-the-job role model, role model in the teaching setting, mentor, personal advisor or tutor, learning facilitator, examiner, curriculum evaluator, curriculum planner, course organizer, study guides producer and learning material developer are considered as priority roles. Relevant key qualities of a medical teacher were identified according to literature. Based on this a questionnaire was developed with 20 different roles and 15 qualities of a medical teacher. A total of 188 physiotherapy and medical undergraduates from three academic years participated in the study. Data were analyzed using descriptive analysis, Mann-Whitney test and one-way Anova analyzed perception difference based on study course and academic year.

Results

Students' perception on importance of different roles of teachers had a close overlap with Harden's 12 roles. According to students' perception 12 priority roles were identified, information provider as a lecturer in class room (95.8%) in clinical settings (89.9%), in practical settings (88.8%), developing learning materials for lectures (87.7%), clinical educator (85.7%), role model in teaching setting (80.8%), resource developer (79.3%), on-the-job role model (Clinic/ward) (78.2%), Learning facilitator in SGDs (76.6%), learning facilitator in PBLs (75%), course organizer (75%), curriculum evaluator (72.9%). Importance of being an examiner and curriculum planner was rated relatively low by students.

Physiotherapy undergraduates had a more positive perception towards educators' role as researchers and course organizers than MBBS undergraduates. This difference in perception was statistically significant. This may be due to physiotherapy students having closer contact with educators since their batches are smaller and they observe the roles educators play as researchers and course organizers more closely.

No statistically significant difference was found on students' perception based on academic year. Students perceived good communication skills (96.8%), professional skills (95.7%), knowledge (94.1%) and respect for patients (93.1%) as most important qualities in an educator.

Conclusion

Study findings indicated students' perceptions on importance of faculty's roles are closely overlapping with Haden's 12 roles. Findings will help the faculty understand what learners expect from them and help students understand the different capacities of educators. They also have direct implications in teaching evaluation, designing teaching methods and faculty development programs.

'WORLD CAFÉ-LIKE' FACULTY DEVELOPMENT YIELDS MORE PURPOSEFUL PRODUCTS AND DESIRED EDUCATIONAL OUTCOMES: A SHORT-TERM ACTION RESEARCH PROJECT

[1]*Shimizu I,* [1]*Kurokawa Y,* [1]*Mori J,* [2]*Morita H,* [1]*Tada T*

[1]*Center for Medical Education, Shinshu University, Japan,* [2]*Clinical Resident Training Center, Shinshu University Hospital, Japan*

Aims

As the workplace-based education that takes place during students' clinical years plays a more important role in Japanese medical schools, the educational environments of clinical clerkship programmes are diversifying, and more clinical educators in teaching hospitals are committing to such programmes. In order to share the curricula for clerkships with these clinical educators, it is beneficial to create the curricula with them through faculty development (FD). While such FD usually adopts several rounds of small group discussions, the optimal method of FD for this purpose has not been well studied. The aim of this project is to develop a more beneficial FD method for sharing diverse opinions and establishing highly generalisable products.

Methods

We conducted action research to identify desired outcomes for all clinical specialties in a clinical clerkship programme. The study design included four phases: planning, action, observation, and reflection. Initially, we held two consecutive standard workshops for 12 specialties (73 participants in total). In order to establish the outcomes of the clerkship, the participants engaged in two rounds of small group discussions based on their specialty and made a plenary presentation after every round. For the observation, we administered a questionnaire using a 5-point scale ranging from 1 'strongly disagree' to 5 'strongly agree' and an open-response evaluation. The responses were segmented and analysed using the affinity diagram (i.e. KJ method). After the analysis, team members held reflective meetings. The affinity diagram revealed that although some hesitance in active participation was observed, collaboration among participants with different subspecialties seemed to be associated with satisfactory products. Therefore, we integrated the essence of the World Café (Brown & Isaacs, 1995) into the following three workshops because it leads to collaborative dialogue and knowledge sharing. The participants with the same specialties gathered respectively in the first round and explained their products in the interim plenary presentation. Then, each member of the group except one moved to a different table for the second round. Finally, followed by the second plenary presentation, they submitted the final versions of the clerkship outcomes as their products. Forty-seven participants from nine departments were included in the workshops.

Results

The questionnaire revealed that the average validity of their products significantly improved from 3.77 to 4.00 ($p = 0.017$). The average fulfilment in the workshop also significantly improved from 3.61 to 4.05 ($p = 0.001$). The affinity diagram showed that favourable opinions as well as constructive suggestions increased. Furthermore, some participants cultivated a better understanding of educational activities. These results may be due to the characteristics of the World Café as it can generate a richer discussion than traditional discussion techniques as well as make collective knowledge visible. While the World Café is not suitable for making any decisions or products, the plenary presentations overcame these disadvantages.

Conclusion

'World café-like' FD was developed as an effective method for developing and sharing purposeful outcomes.

ACTIVELY SHAPING EDUCATION AND CLINICAL TEACHING TASKS: JOB CRAFTING BY CLINICAL TEACHERS

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[1]*Center for Evidence Based Education, Academic Medical Center, University of Amsterdam, Netherlands,* [2]*The Faculty of Health, Medicine and Life Sciences, Maastricht University, Netherlands,* [3]*The Center for Education Development and Research in Health Professions, University Medical Center Groningen, University of Groningen, Netherlands*

Aims

Trying to balance work in education, clinical teaching and patient care is a challenge for clinical teachers and educators. When people undertake action to find the right balance in their work, this is called 'job crafting'.[1] Job crafting may consist of seeking social or structural resources, seeking challenges and decreasing demands. To what extent clinical teachers and educators engage in job crafting is unknown. However, job crafting may lead to an increase in work engagement. Because engaged clinical teachers are seen as better clinical teachers [2], it is important to know the influence of job crafting in this context to better support clinical teachers in their work. For this study our aim is to gain insight in to what extent clinical teachers engage in job crafting in their roles of education, clinical teaching and patient care respectively and to want extent it is related to work engagement.

Methods

We conducted a cross-sectional questionnaire study in five academic medical centers and ten teaching hospitals. Participants were invited through their affiliated medical schools or educational departments. Participants digitally filled out the questionnaire, answering demographic questions and completing validated measures for work engagement (scale: never (0.00) to daily (6.00)) and job crafting (scale: never (1.00) to very often (5.00)).

One-way analysis of variance was conducted to analyze the correlation between job crafting and work engagement.

Results

479 out of 1026 participants filled out the questionnaire for the combination of patient care with either education, clinical teaching or both. The extent of job crafting within the patient care role (avg. 2.69, range: 1.00-5.00), differed significantly (p<0.001) from education (avg. 2.29, range 1.00-4.10) and clinical teaching (avg. 2.34, range: 1.24-4.05). Work engagement for the patient care role (avg. 4.20, range: 1.33-6.00) different significantly (p<0.001) from education (avg. 3.77, range 0.00-6.00) and clinical teaching (avg. 3.91, range 0.00-6.00).

The correlation between job crafting and work engagement within education is lower (ß 0.370, p<0.001) than for clinical teaching (ß 0.432, p<0.001) and lowest for patient care (ß 0.269, p<0.001).

Conclusion

Clinical teachers appear to engage in job crafting only to a medium extent, i.e. not often. A higher level of job crafting does seem to correlate with a higher level of work engagement. Research has shown a positive gain spiral may arise between job crafting and work engagement. Encouraging educators and clinical teachers to actively shape their tasks may be advisable.

References:
1. Tims M, Bakker AB. Job crafting: Towards a new model of individual job redesign. SA J Ind Psychol. 2010;36(2):1-9. doi:10.4102/sajip.v36i2.841.

2. Scheepers RA, Arah OA, Heineman MJ, Lombarts KMJMH. In the eyes of residents good supervisors need to be more than engaged physicians: the relevance of teacher work engagement in residency training. Advances in Health Sciences Education. 2014.

PROFESSIONALISM: DEVELOPING YOUR OWN TEACHING AND FACULTY DEVELOPMENT MODULES TO SUIT YOUR MULTI-CULTURAL CONTEXT

[1]*Khidir A*, [2]*Alyafei K*, [2]*Al Hammadi A*, [2]*Wagdy M*, [3]*Elzouki A*

[1]*Medical Education, Weill Cornell Medical College in Qatar, Qatar, [2]Pediatrics Department, Weill Cornell Medical College in Qatar, Hamad Medical Corporation, Qatar, [3]Internal Medicine, Weill Cornell Medical College in Qatar, Hamad Medical Corporation, Qatar*

Aims

1) Develop a relevant teaching modules to increase awareness about professionalism lapses through discussion and observations, 2) Discuss and reflect on common lapses and detail its rationale, 3) Demonstrate giving feedback and prepare a remediation plan, and 4) Illustrate how these modules can be built with simple available resources.

Methods

We conducted a needs assessment in four disciples (Internal Medicine, Pediatrics, Obstetrics and Gynecology) to inform the curriculum development. Two curricula were developed: Comprehensive 6-hour course of three workshops for trainees, and 3-hour workshop for healthcare providers. The modules contained didactics, videos, case discussion and role-play addressing lapses with patients, healthcare providers, feedback and remediation. The videos were locally made and the actors are our own trainees. 1-5 Likert scale evaluation with a commitment to one change in behavior was used.

Results

To date (2012-2014), 23 trainees' courses attended by > 900 participants and 24 Workshops attended by > 980 faculty were conducted. Overall the evaluations were great of 4.0-4.5 for most of the items. Many trainees committed to work on respect to colleagues and patients, altruism and team work and faculty committed to refine feedback skills, work on handling junior faculty and trainees. The course won the Rising Star, Stars of Excellence Award for Education by Hamad Medical Corporation, Qatar as well as being presented in international conferences. Moreover, more interest by trainees and junior faculty in faculty development and enthusiasm to participate in scholarly work.

Conclusion

Designing your own professionalism teaching curriculum is feasible and can lead to a better engagement, alignment of perceptions and commitment to change in multicultural healthcare contexts. Involving trainees and faculty in the process of developing these modules can be a strategy that can help in increasing interest, buy-in and more involvement in faculty development within their context.

FREE COMMUNICATION 2 – TEACHING AND LEARNING 1

Introducing Non Verbal Communication in Medical Training Differences in Learning Among Students, Junior Doctors and Senior Acute Nurses
Ture Larsen, Denmark

Effectiveness of Near-Peer Teaching in Learning Critical Appraisal Skills
Indah Widyahening, Indonesia

How Psychiatry Residents Perceive the Quality of Supervision for New Cases in the Ambulatory Setting - A Preliminary Survey
Tan Lay Ling, Singapore

A Novel Method of Generating Medical Educational Material: Identifying Key Terms, Phrases, and Logical Structures in Clinical Case Presentations to Enhance and Accelerate Student Learning
Alberto Gayle, Japan

Comparing and Contrasting Perceived Value and Acceptability of and Preparedness for Simulation Based Medical Teaching among Medical Students in Different Clinical Years
Min Sein Yee, Malaysia

Near Peer Teaching of Surgical Physical Examination Skills in a Large Academic Medical Centre in Asia
Gan Ming Jin Eugene, Singapore

INTRODUCING NON VERBAL COMMUNICATION IN MEDICAL TRAINING DIFFERENCES IN LEARNING AMONG STUDENTS, JUNIOR DOCTORS AND SENIOR ACUTE NURSES

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Aims

A large part of communication between people is non-verbal. It has not been described in the literature that medical students or residents are trained in this kind of communication. The non-verbal communication has an important role as being a doctor especially in the role as leader, team member (cooperator) and professional.

The conductor in an orchestra practices leadership using non-verbal communication.

It is possible to train medical students/residents in taking responsibility, leadership and acting in a team using the principles from the training of conductors.

Students, junior doctors and senior acute nurses participated in a project on the development of a course in nonverbal communication in order to strengthen team management and collaboration. All provided evaluation of the course both quantitatively and qualitatively.

Methods

After a short introduction to acute clinical situations where the importance of being able to take leadership as a doctor, the conductor explained how he with use of body language and eye contact controls the members in the orchestra. Afterward two exercises from the musical world trained the students in using their body language and eye contact. The conductor gave personal feedback to all members.

Results

All groups rated the course favorably. We found a significant difference between the nurses and the other groups in terms of acquisition of new knowledge. In addition, there was a significant difference between junior doctors and medical student's expectation of the transfer of what is learned to the clinic. Overall, the course was received more positively by students and senior nurses.

Summary of innovation: All participants found that the training was very useful leading in acute medical situations Instruction of a conductor using exercises from the music was very interesting and gave a perspective to the use of body language and eye contact which was new. The training resulted in further self-awareness by more of the participants.

Conclusion

1. It is possible to advantageously use the principles conducting an orchestra in training leadership, cooperation and professional behavior.

2. Students are very open to new ideas. Junior doctors are a bit insecure in the leadership role and therefore a bit skeptical about something different. Senior emergency nurses have experienced situations with failing management and found therefore the project very interesting.

EFFECTIVENESS OF NEAR-PEER TEACHING IN LEARNING CRITICAL APPRAISAL SKILLS

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Aims

To study the effectiveness of near-peer tutors in teaching critical appraisal skills as part of Evidence Based Medicine teaching for medical students.

Methods

Design of study was prospective randomised control cross-over trial. Randomization was computer generated. Near-peer teaching was implemented in the Clinical Epidemiology and Evidence Based Medicine (CE-EBM) module in the Faculty of Medicine Universitas Indonesia (FMUI). Participants were semester 8 students of FMUI academic year of 2014-2015. Intervention was the utilization of near-peer tutors which were newly graduates of FMUI already passed the CE-EBM module. Staff tutors served as control. After two tutoring sessions, the intervention and the control group exchanged their tutor for the next two sessions. Main outcomes measures were written multiple choice questions (MCQ) test, Evidence Based Practice Confidence Scale (EPIC) of students, students attitudes and tutor evaluation by students at the end of the module.

Results

The CE-EBM module of FMUI was conducted in two rotations on May to July 2015. Total students participated was 241. At the end of the module, the mean (SD) written test score of the near-peer tutored group and staff-tutored group is 68.20 (12.50) and 70.61 (10.99); p=0.122. The mean (SD) overall Evidence Based Practice Confidence Scale is 74.82 (8.49) and 74.04 (8.65); p=0.673. In the majority of the evaluation aspects, students rated the near-peer tutored discussion sessions better than the staff-tutored.

Conclusion

Near-peer tutor is as effective as staff tutor in the critical appraisal skills teaching. This study could become a model in enhancement of academic atmosphere which promote the role of doctors as educator.

HOW PSYCHIATRY RESIDENTS PERCEIVE THE QUALITY OF SUPERVISION FOR NEW CASES IN THE AMBULATORY SETTING - A PRELIMINARY SURVEY

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Aims

The National Psychiatry Residency Training Program requires our third year Residents to be posted to the outpatient clinics for a year. Changi General Hospital (CGH) is the only teaching site with a supervisory framework whereby all new cases are seen together with the supervisor. Other teaching sites offer an alternative supervisory model with the resident seeing the new cases independently and discussions with the supervisors followed after with no direct observations.

There has been little research on the supervision of the initial interview in the psychiatry outpatient setting. This survey attempts to compare the perception of the quality of supervision of the residents with and without direct observation of the initial interview. The hypothesis is that residents, particularly the less mature learners, would prefer to have someone with them to observe and guide them.

Methods

Residents who had been through their third year rotation were invited to respond to a questionnaire detailing their years of post-graduate experience (mature learners with 5 or more years of clinical experience post-graduation), the supervisory framework and their preferred choice of supervision in the ambulatory setting. The Cleveland Clinic's Teaching Effectiveness Instrument (CCTEI) was used to assess the residents' perception of the quality of supervision. The supervisors from CGH were invited for a focused discussion on the supervisory framework.

Results

18 out of the eligible 26 residents responded to the survey contributing to a response rate of 69%. CCTEI mean score was lower for DO (3.5 v.s. 3.9). 8 of the 18 residents had direct observation (DO) and would prefer to maintain (6/18) or incorporate supervision without direct observation (WDO). Resident WDO (10/18) would prefer to maintain this form of supervision and the following reasons were cited: 1. allowed more independent learning; 2. have time to reflect before case discussions. The criticisms for DO were: 1. stressed by being observed the whole time; 2. time consuming; 3. affects autonomous learning. However, residents highlighted that DO allowed for real-time feedback particularly in terms of interviewing skills and communication techniques. The years of post-graduate experience did not influence the preferred choice of supervision although it was unanimous from the focused group discussions with supervisors that the less mature learners should have DO in their initial months of training.

Conclusion

Close supervision by DO for all new cases may not always be appropriate. Aside from provoking anxiety and affecting learning, there were concerns of too much 'hand-holding' and compromised autonomous learning. DO of all new cases is laborious and time-consuming. It may not be sustainable with an increasing pool of residents entering residency. DO will be important and may be crucial in the initial months of training, regardless of the level of maturity of the residents. There is a need to standardize the ambulatory clinic supervision across the various teaching sites but there should be flexibility in the supervisory framework for residents to function more independently eventually when they are deemed to be competent and safe. More research is needed to elucidate the determinants of the most effective supervisory model.

A NOVEL METHOD OF GENERATING MEDICAL EDUCATIONAL MATERIAL: IDENTIFYING KEY TERMS, PHRASES, AND LOGICAL STRUCTURES IN CLINICAL CASE PRESENTATIONS TO ENHANCE AND ACCELERATE STUDENT LEARNING

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Aims

Understanding terms and phrases key to any given subject area is essential to being able to learn and understand the methods, results, and overall logic of said subject area. Accordingly, our aim is to derive an optimal set of key terms and phrases in the area of "clinical case presentations", to support undergraduate medical education in the areas of clinical reasoning, case summarization, and case presentation, and to facilitate USMLE preparation.

Methods

To identify the key terms and phrases unique to clinical case presentations, we were required to 1) build a sufficiently large and representative corpus (i.e., language database) of English-language clinical cases, and then 2) analyze said corpus against an even larger corpus representative of the entirety of modern English, as used by the general public.

For this research, all data preparation and analyses were conducted using the SketchEngine corpus management and analysis software by Lexical Computing Limited (UK).

Our test corpus was constructed in two specific phases. In phase 1, we collected and aggregated case material obtained from a) the "100 Clinical Cases" and "Core Clinical Cases' series' and b) the official "sample items" materials for USMLE Steps 1, 2, and 3 (2009-2015). This initial corpus was used to generate a "see list", which was then used to inform a broader search for openly available clinical case material. This final, search-derived clinical case presentation corpus (SDCCP) contained almost 5 million (4,755,353) words.

In phase 2, our SDCCP corpus was analyzed against the web-based enTenTen corpus available within SketchEngine, consisting of over 11 billion (11,191,860,036) words. A log-likelihood algorithm was used to identify the key terms and phrases differentiating the two corpuses. The items so obtained were then classified according to functional area, for example: presenting complaints, physical examination, diagnosis, management, symptoms, and so on.

Results

Two lists were successfully extracted, each with an arbitrarily defined limit of n=300 items, specific for and unique to the discussion of clinical cases. The key words so identified were found to consist primarily of symptoms (e.g., "dyspnea") and adjectives to describe symptoms (e.g., "pulmonary"). The key noun phrases were found to be associated primarily with the typical logical divisions of a clinical case presentation (e.g., "physical examination", "differential diagnosis", etc.), typical findings on examination (e.g., "respiratory rate"), as well as common diagnostic considerations (e.g., "heart disease", "renal disease", etc.).

Conclusion

Here we demonstrate a novel use of data-mining technology for the production of materials to facilitate the learning of complex subject matter. In the case of clinical cases presentations, our work benefitted from the fairly standardized language used in case presentations, irrespective of specific field or region of practice. By systematically identifying such key terms and phrases, we are able to more precisely characterize not only the linguistic characteristics of clinical case presentations, but also the logic with which they are associated. Our next step will be to use this process to generate a similar set of terms and phrases, specific for biomedical research publication.

COMPARING AND CONTRASTING PERCEIVED VALUE AND ACCEPTABILITY OF AND PREPAREDNESS FOR SIMULATION BASED MEDICAL TEACHING AMONG MEDICAL STUDENTS IN DIFFERENT CLINICAL YEARS

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Aims

Simulation contributes significantly to the training of medical students in our university. We provide extensive simulation sessions for final year students in their last semester in order to prepare them for houseman training. Also, for year 3 students, we provide simulation sessions with clinical scenarios in managing acutely unwell patients. As part of our internal quality assurance programme we conducted a survey to investigate the usefulness of simulation perceived by year 3 students. We compared the results with that of a similar survey of year 5 students to try to gain insight as to how we might better support our students according to their clinical year.

Methods

At the end of year 3 we requested feedback from the students to determine their perceptions of the acceptability of and preparedness for simulation and the value of the programme. This survey was performed by sending by e-mail a link to an on-line survey using the Survey Monkey platform. The survey contained similar questions to a paper based questionnaire which had previously been applied to stage five students at the end of their simulation based training. In both formats, students were presented with statements and asked to grade their agreement with the statements on a five point Likert scale. Free text comments were also invited. Students were free to skip any questions that they did not want to answer. Data was collected anonymously and accessible only by members of the simulation team.

Results

The response rate of year 3 students was 30% compared with 100% for year 5. The paper feedback form having a higher response rate than the online survey. Both year groups showed high acceptance of the simulation integrated into their curriculum. All students reported anxiety during simulations but junior students more so than senior students. But both groups enjoyed simulation sessions suggesting that their anxiety was not harmful for their learning. Both groups showed that they valued the simulation sessions but stage 5 students responded more positively than stage 3. A small percentage of students would prefer spending more time at hospital (this was particularly so for year 3 students) rather than in simulation. Most agreed that simulation helped them to achieve the learning outcomes of their respective years. Twice as many third years as fifth years felt well prepared for the simulation sessions although more fifth years reported that they understood what they were supposed to learn from the simulation session.

Conclusion

Use of simulation training is well accepted and perceived as useful by both year 3 and year 5 students. Simulation training appears to support students' learning needs in both years 3 and 5. The more students understand what they are supposed to learn from the simulations, the more students value simulation sessions. Differing levels of perceived preparedness and understanding of what lessons should be taken from the sessions suggest that junior and senior students may benefit from different styles of briefing or debriefing.

NEAR PEER TEACHING OF SURGICAL PHYSICAL EXAMINATION SKILLS IN A LARGE ACADEMIC MEDICAL CENTRE IN ASIA

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Aims

We describe a near-peer teaching (NPT) initiative to teach surgical physical examination skills to students who are encountering patients for the first time. This may supplement faculty-led teaching and ameliorate difficulties in imparting clinical skills due to increasing student numbers, busy clinical workloads and time constraints. Beyond circumventing faculty constraints, NPT may promote a greater degree of active learning, knowledge application, and opportunities to correct misconceptions. Near-peer tutors may better understand learner challenges and share personal experience overcoming these challenges (cognitive congruence), and promote a conducive, collaborative learning environment (social congruence). Tutors become role models and may benefit from deeper learning of content and develop higher cognitive skills.

Methods

Forty second-year students undergoing their maiden clinical posting at the Singapore General Hospital, Singapore, participated in a one-day workshop with IRB approval and written consent. In small groups of 10, students were taught to examine the abdomen, arterial system, skin, neck, breast, and groin lumps. 5 final-year students planned the workshop and served as near-peer tutors. Teaching material was written by near-peer tutors and vetted by faculty. Instruction was modelled on Peyton's four-step approach. Mentors explained the background to each examination, demonstrated once, and discussed the technique, rationale, and possible findings in each step. Students practiced on each other under supervision. To consolidate learning, near-peer tutors conducted objective structured clinical examination (OSCE) post-tests, and provided qualitative feedback. Students also undertook identical OSCE pre-tests for comparison, and completed anonymous feedback forms. Statistical analysis was performed in R. Test scores were percentages of maximum possible score. Paired differences between individual pre-test and post-test scores were analyzed using Bayesian Estimation on weakly informative normal priors. Posterior probability distributions were approximated using Markov Chain Monte Carlo with 100,000 resamples.

Results

OSCE scores improved after teaching, most markedly in the arterial exam (+49.7, credible interval 41.7-57.8), but also in the lumps (+34.7, credible interval 27.6-41.5) and abdominal examinations (+17.3, credible interval 10.0-24.6). The abdominal examination started with higher mean pre-test scores (73.3%) than the arterial (41.6%) or lumps examinations (55.7%), possibly reflecting greater exposure to the abdominal examination during prior faculty-led tutorials. 34 students (85%) provided feedback, which was generally positive. Notably, all students described better understanding of the rationale behind each examination step, as opposed to performing the examinations mechanically. Near-peer tutors found that the session reinforced their own learning.

Conclusion

We describe a student-initiated NPT initiative that supplements faculty-led physical examination teaching and dovetails with other student-initiated senior-junior mentorship efforts being conducted. This initiative improves OSCE scores and was well received. The marked improvement in OSCE scores in areas less well-covered during faculty-led tutorials suggests that NPT sessions focusing on these gaps may complement faculty-led tutorials particularly well. Study limitations include a small sample size and potential observer bias because workshop tutors were OSCE assessors. We hope to highlight this valuable yet under-utilised teaching modality which may be uniquely valuable in addressing the challenges faced in teaching clinical skills. We are optimistic that future studies may detail its academic, non-academic, and logistical benefits.

FREE COMMUNICATION 3 – ASSESSMENT

Seven Years of Experience with Workplace-Based Assessment in High Stakes Testing for International Medical Graduates: Practice, Research and Implications for Future Development
Liz Farmer, Australia

Assessing Reasoning and Decision Making Skills: Using SCT and EMQ. A Pilot for Urology Residents
Sheilla Pinjani, Pakistan

First-Year Medical Students' Perceptions of Using Simman® in Clinical Skills Examination Session
Meenakshi Swamy, United Kingdom

Continuous Assessment Scores: Do They Predict Performance in the Pre-Clinical Professional Examination?
Sarmishtha Ghosh, Malaysia

Is There a Need for Introducing Open Book Assessment Method in First-Year Medical Curriculum? A Preliminary Study
Rajajeyakumar Manivel, India

Designing Situational Judgement Scenarios to Support the Development of Non-Technical Skills in Post Graduate Medical Education: Evaluation of a Training Intervention
Amy Aitkenhead, United Kingdom

SEVEN YEARS OF EXPERIENCE WITH WORKPLACE-BASED ASSESSMENT IN HIGH STAKES TESTING FOR INTERNATIONAL MEDICAL GRADUATES: PRACTICE, RESEARCH AND IMPLICATIONS FOR FUTURE DEVELOPMENT

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Aims

Workplace based assessment (WBA) has been offered to international medical graduates since 2008 as an alternative assessment process leading to general registration as a medical practitioner in Australia. It allows working candidates in accredited sites to choose between WBA and a traditional OSCE examination. The presentation aims to overview the current assessment methodologies in use, provide learning from seven years of providing the process and discuss selected data from candidate feedback and the peer reviewed literature.

Methods

The AMC currently accredits 7 providers across Australia to deliver a longitudinal programmatic assessment over a minimum of six months. The compulsory methods include Mini-CEX, Case-based discussion (CBD), and Multi-source feedback (MSF or 360 degree feedback) from colleagues and co-workers. The assessment methods emphasize detailed and immediate feedback after every assessment. Feedback is intended to promote self-directed learning. All assessment methods have prescribed pass fail standards and are non-compensatory. Some providers include additional methods such as direct observation of procedural skills (DOPS) on a mastery basis, and in-training assessments. A suite of online resources for providers and assessors has been developed and will be described.

Results

In all 337 candidates have been through this process. Details of the current pass rates and areas that candidates have the most difficulty with will be discussed. A formal candidate survey was administered to candidates and results from the candidates' perspective will be provided. Candidates appreciated the process and valued the acculturation and preparation for working in the Australian environment and strengthening of relationships with colleagues, peers and co-workers. Results of the WBA programme are being increasingly represented in the peer review literature, which will be summarised.

Conclusion

WBA provides a robust form of summative assessment using a longitudinal programmatic assessment model. It provides a valid alternative pathway to general registration for international medical graduates and is highly considered by participants and providers as a quality assessment process. It is gaining recognition in international medical education communities.

ASSESSING REASONING AND DECISION MAKING SKILLS: USING SCT AND EMQ. A PILOT FOR UROLOGY RESIDENTS

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Aims

Residents undergo continuous assessment and end of year exam conducted by 'European Board of Urology'. This test doesn't test reasoning skills to greater extent. Faculty at AKU designed another test to explore residents' decision making ability under uncertainty and improve learning.

To test reasoning skills of Urology residents under uncertainty

To improve learning of Urology residents

Methods

48 item script concordance (SC) and 21 item k type extended matching questions (EMQ) pilot test was administered to all (9) residents, (6) interns and 12 final year students. The responses were corrected using aggregate scores and alternative scoring where candidates were scored 1 or 0 depending upon concurrence with the maximum number of faculty.

Results

Mean percentages for residents' were higher for SCT than EMQ. Whilst there was a wide variation in scores, year 3 and 4 residents' on SCT scored higher (61.8 +11.0) than interns including year 1 & 2 residents (58.1 + 12.7) and students 54.5 + 6.0, the difference was statistically insignificant. EMQ corresponding scores were 44.8 + 28, 43+13.6, and 46.2 +9.5. Cronbach alpha was 0.93.

Conclusion

SCT demonstrated expected variation across clinical experience while EMQ did not; and variation was wider for SCT than EMQ. Test was acceptable to candidates.

Take home messages

Development of clinical reasoning tests in residency programs might be useful in identifying the deficiencies in learning at early years of clinical practice.

This could be used as basis for targeted constructive feedback and focus in teaching, which would result in improved confidence in decision making.

FIRST-YEAR MEDICAL STUDENTS' PERCEPTIONS OF USING SIMMAN® IN CLINICAL SKILLS EXAMINATION SESSION

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Aims

Simulation is a rapidly developing area in medical education. It has the potential to augment learners' knowledge and help them shape the acquisition of clinical skills. Laerdal SimMan®, a moderate fidelity manikin, is being used widely in the later years of medical education. The aim of the study was to explore first year medical students' perceptions of using SimMan® as an adjunct in their learning of clinical skills examinations.

Methods

One hundred and four first year medical students at Durham University were invited to participate, of which seventy nine students volunteered and were included in the crossover study. Ethical approval was obtained. Students performed chest examination on a fellow student and on SimMan®. A pretest, mid-test and post-test was conducted with a questionnaire consisting of knowledge-based questions and confidence level questions rated using a 4-point Likert scale. They were assessed formatively whilst performing examinations similar to their OSCE. Seventy eight (78/79: 99%) students completed the feedback questionnaire at the end of the session and qualitative data from the free text comments was analysed using thematic analysis.

Results

The great majority (75/78: 96%) of the students felt that the session which included both the manikin and peer examination enhanced their learning experience. They (67/78: 86%) felt that it made them feel more prepared to examine real patients. Students found the experience of examining in different settings useful as there was deliberate practice and feedback on performance; it encouraged reflection and identified areas of improvement. Some students commented that it helped them remember the examination procedure/steps better, improved the appreciation of the importance of clinical examinations, increased confidence, encouraged checking for abnormality, and provided useful revision. Most of them (68/78: 87%) felt the use of SimMan® to practice examination was useful. It provided them with an opportunity to examine abnormal signs, interpret different parameters displayed on the monitor, and improve clinical contextualisation. Students (61/78: 78%) felt it reinforced the importance of being able to recognize normal findings and that it improved their knowledge for performing examination (55/77: 71%). It informed them about abnormal signs, enabled them to better differentiate between normal and abnormal, increased perceived level of confidence and prepared students for future patient contact. Absence of realism and lack of opportunity were the themes that emerged from the negative responses. However, some students thought absence of realism was a benefit because they were less stressed and there was no shame or shyness or inhibition that may be associated with examining peers or patients. Students recommended frequent use of the manikin and suggested that the session could be improved by increasing the time allocated, providing more teaching, and increasing the number of stations. An overwhelming majority (72/78: 93%) of them enjoyed the session.

Conclusion

SimMan® provides a realistic and holistic experience of examining a patient. Students evaluated the session incorporating both peer and SimMan® very positively. Together they can establish a strong foundation of clinical skills through experiential learning which can eventually be developed in clinical practice.

CONTINUOUS ASSESSMENT SCORES: DO THEY PREDICT PERFORMANCE IN THE PRE-CLINICAL PROFESSIONAL EXAMINATION?

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Aims

Continuous assessment is more likely to be formative, informal, internal, process-oriented and learner-involved,thus become self-referenced in nature. However, if they are formally structured and marked then the scores contribute to a proportion of the total score in the professional examination. Scores of continuous performance also help the students to streamline their learning process. Continuous assessment can generate a good deal of data which can be suggestive of the efficacy of learning content. In many educational institutes, continuous assessment [conass] is used for improvement of student performance in the professional examinations [proXM]. However, it remains to be established if conass scores predict proXM performance for medical students. This study aims to find out the correlation between scores of conass and first proXM at the end of preclinical phase. It is also aimed to find if conass scores predict performance of the students of varied achievement levels.

Methods

This is a retrospective study involving the conass scores and proXM scores of 559 students of 4 consecutive batches [2009-2012] of an upcoming medical school in Malaysia, Scores of students who passed the first professional examination at the end of a two year preclinical phase at one try were included in the study. The students were further classified as high achiever [H-ach], mid achiever [M-ach] and low achiever [L-ach] based on their scores in the final examination of >70%, 60-69% and 50-59% respectively. Statistical analysis was conducted using SPSS v 19.1 and correlations were established.

Results

Comparison of conass scores with respective proXM scores showed that batch 2 [2010] reflected a better correlation [r=0.84] as compared to that of batch 1[2009]. Correlation of conass scores with proXM scores for high and low achievers of batch 1 were better as compared to that of batch 2. However, mid achievers of the batches showed different results. Batch 2 [2010] had better positive correlation even in the mid achievers whereas those in the batch 1[2009] reflected negative correlation. Correlation for batch 3 [2011] showed further improvement whereas that for batch 4 [2012] reflected considerably high correlation in the low achievers as well [r=0.67].

Conclusion

It is suggested that the faculty should uphold the principle of conass and more effort be made towards designing of continuous assessment questions so that performance can improve in the professional examination. Blueprinting of question papers is essential for making the conass scores good predictors of the proXM performance for all categories of students. Better correlation for batch 4 is suggestive of the fact that if the conass process is made more structured and standardized then it will reflect in the scores of the professional examination. Continuous assessment tools need to be properly structured so as to improve performance and also to predict the improvement in performance at the preclinical professional examination.

IS THERE A NEED FOR INTRODUCING OPEN BOOK ASSESSMENT METHOD IN FIRST-YEAR MEDICAL CURRICULUM? A PRELIMINARY STUDY

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Aims

In India, most of the medical institutions are followed closed book examination (CBE) method of assessment for first year medical students. Similar pattern of examinations are continued for past two decades which will be more focus on cramming and memorization of facts rather than thought provoking and problem solving ability. Open-book tests (OBE) are offering access to references in order to find answers to questions and solutions for the problems assigned. A few educational boards like the National Law School and the International Institute of information Technology, Bangalore, and Central Board of Secondary Education have OBE systems in place for certain subjects. This study was therefore, designed with an aim to assess and compare the students higher cognitive level and deeper learning approaches by open-book test with traditional CBE method.

Methods

Experimental research design was conducted among 144 first year medical students and attendance register was taken as sampling frame. The students were selected randomly by using simple random sampling technique and divided in to two groups, group 1and 2. Each group consists of 72 students of aged between 18-20 yrs. of both genders. These studies was composed of one week module and comprise of 20 multiple choice questions, out of which 10 (easy and direct), another 5 (difficult and twisted) and the remaining 5 was very hard and, problem based and case oriented questions. Allotted total time was 45 minutes, to answer these 20 questions giving 2 minutes per question and a bonus of 5 minutes. Both the open-book sections and the closed-book sections will be in the multiple choice format. Data was analysed by IBM SPSS statistics 21 version.

Results

There were no significant base line differences in CBE and OBE between both groups. The students were scored significant high marks in OBE than CBE of both group and gender ($P \leq 0.001$). Gender difference was found significant between OBE and CBE of group 1 and 2. Here interestingly noted that, female students have scored high marks than males in open book examination among both groups.

Conclusion

Innovative assessment methods such as OBE, objective structured communication stations and evaluation of student participation in group work will be used. With the information overload in medicine, the emphasis is shifting from knowing something to knowing where to find the information. In conclusion, OBE could be considered as one of the assessment method for first year medical students after getting approval from committee members of medical council of India. In the present study, we did not analyze already exiting knowledge among students. Future research should include basic knowledge and IQ test which may be affecting the study outcome. Therefore, our results can be considered to be preliminary and be viewed with caution of potential rater bias. We also recommend that, this study should be carried out in many medical colleges across the country before going to be introduced.

DESIGNING SITUATIONAL JUDGEMENT SCENARIOS TO SUPPORT THE DEVELOPMENT OF NON-TECHNICAL SKILLS IN POST GRADUATE MEDICAL EDUCATION: EVALUATION OF A TRAINING INTERVENTION

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Aims

Research demonstrates that an array of non-technical professional attributes (e.g. empathy, integrity) are critically important predictors of future job performance and training outcomes in healthcare settings (e.g Gale et al 2010; Lievens and Patterson 2011; Patterson et al 2013). Situational judgement tests are often used in selection to assess non-technical skills across many high stakes settings, and more recently in medical education and training (e.g. Patterson et al 2012).

Situational judgement scenarios (SJSs) that are used for development aim to enhance participants' understanding of effective behaviours, attitudes and values at work and provide an opportunity to develop personal insight. This paper explores approaches to designing SJSs for training non-technical skills in medical education and evaluating the impact of this mode of training.

Methods

A literature review and a series of stakeholder interviews identified a need for a training initiative to enhance self-awareness, decision-making and conflict management in Foundation doctors. A blended two-phase learning approach was developed and delivered in one area of the UK. The first phase consisted of an online module and the second phase, a face-to-face facilitated workshop.

The online module presented participants with SJSs which mapped onto one of the three topic areas. These were presented in both a text- and video-based format. The tool asked participants to outline what action they think the character should take, rate the appropriateness of pre-defined actions and compare their ratings with the responses and rationales of an expert panel.

This approach allowed participants to reflect on any discrepancies between their own responses and those of the experts, and obtain feedback on how appropriate each pre-defined action was, and the reason for this, with an aim to enhance their knowledge of effective behaviours in the workplace.

The evaluation strategy that was employed followed theoretical best practice (Kraiger, Ford & Salas, 1993). Baseline measures were taken at four time points, which targeted outcomes in relation to knowledge gain and belief in ability to apply learning back into the workplace. Training satisfaction measures (content, technology, engagement) were also taken upon completion of the online module and workshop.

Results

A total of N=1,029 foundation doctors have completed the online module, with results indicating that SJSs are a useful tool for development. Doctors reported high levels of satisfaction with the online module, with approximately 80% of participants agreeing that they would use an online module of that type again, that the content was relevant to their role, that the use of videos was an engaging delivery method to view the training materials in and that the delivery methods used were suited to the content.

A significant increase in average ratings was found for all 15 baseline statements (with the exception of one in 2014) after completing the online module.

Results also investigated the impact of using the different presentation formats.

Conclusion

The findings suggest that there are considerable potential advantages to using SJSs, in terms of cost and faculty resources and that they can be complimentary to 'high fidelity' simulation approaches for training non-technical skills (e.g simulation centres).

FREE COMMUNICATION 4 – GENERAL EDUCATION 1

Educational Environment of Three Medical Schools in Malaysia, Singapore and China
Arokiamary Bharathy, Malaysia

Biomedical Common Year 1 Programme: What Factors Predict Career Intention to be Doctor?
Marcus Henning, New Zealand

Combating Diagnostic Error: Testing a Simplified Deliberate Reflection Technique
Lim Tow Keang, Singapore

Implicit Leadership Theories and Followership Informs Understanding of Doctors' Professional Identity Formation: A New Model
Judy McKimm, United Kingdom

Can Present Medical Education Overcome the Influence of Socio-Economic Disparities on Educational Outcomes?
Suneth Agampodi, Sri Lanka

Challenges in End-Of-Life (EOL) Conversations among Intensive Care Unit (ICU) Nurses
Poi Choo Hwee, Singapore

EDUCATIONAL ENVIRONMENT OF THREE MEDICAL SCHOOLS IN MALAYSIA, SINGAPORE AND CHINA

[1]*Bharathy A*, [2]*Russell V*, [3]*Koay JM* , [4]*Lim HA*, [5]*Xia J*, [6]*Zhao X*, [5]*Xu X*, [5]*Wu D*, [6]*Chen J*, [4]*Kua EH*, [4]*Mahendran R*

[1]*Department of Psychiatry, Penang Medical College, Malaysia, [2]Department of Psychiatry, Penang Medical College, Malaysia and Royal College of Surgeons in Ireland, Ireland, [3]School of Pre-University Studies, Penang Disted College, Malaysia, [4]Department of Psychological Medicine, Yong Loo Lin School of Medicine, National University of Singapore, Singapore, [5]Medical Psychological Institute, Second Xiangya Hospital of Central South University, China, [6]The Teaching Office, Second Xiangya Hospital of Central South University, China*

Aims

To compare the educational environments at Penang Medical College, Malaysia (PMC), Yong Loo Lin School of Medicine, National University of Singapore (NUS) and Xiangya Medical School, China (XMS).

Methods

The Dundee Ready Educational Environment Measure (DREEM) inventory and the John Hopkins University School of Medicine Medical School Events Questionnaire (JHUSOM-MSEQ) were administered to 450 students at NUS, 431 at XMS and 260 at PMC. Mean total and subscale DREEM scores and JHUSOM-MSEQ responses were compared across the three medical schools. Data was analyzed using SPSS version 22.

Results

Total mean DREEM scores were PMC: 128.97± 22.19, NUS: 142.44 ± 15.93 and XMS: 134.84 ±19.93 These scores rate the educational environment as more positive than negative. The subscale DREEM scores from the three medical schools were comparable. Fifth year students at PMC rated the educational environment significantly higher (mean= 139.8 ± 20.13) than students in the fourth year (mean=120.2 ± 19.8) ($p = 0.000$). This pattern was reversed at NUS, where year three and four students' ratings were significantly higher (mean=145.9 ± 15.9) than those of final year students (mean=138.4 ± 15.9) ($p < .001$). At XMS, year four students scored higher (mean = 138.56 ± 18.9) when compared to year three (130.46 ± 20.97) and year five students (134.13± 19.07). At XMS, but not at PMC and NUS, female students' ratings were higher for the total DREEM scores.

Analysis of JHUSOM responses revealed that among the top 5 medical school events, the following 4 were found across all 3 medical schools: (a) "working with enthusiastic teachers", (b) "encountering inspiring role models", (c) "learning clinical medicine at the bedside" and (d) "being encouraged to learn from patients' experiences

Conclusion

This study suggests that particular challenges may be experienced as students undergo transitions into the years in which the curriculum has a greater clinical emphasis and that certain medical school events have a higher impact in the educational environment. These findings can inform how the medical educational environment can be shaped to deliver a meaningful professional and educational formation.

BIOMEDICAL COMMON YEAR 1 PROGRAMME: WHAT FACTORS PREDICT CAREER INTENTION TO BE DOCTOR?

[1]*Henning M,* [2]*Krageloh C,* [3]*Booth R,* [4]*Hill E,* [5]*Chen J,* [1]*Webster C*

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Aims

The Biomedical common year 1 occurs prior to admission to the medical programme. Students achieving a minimum GPA of 6.0 (B+ average) are eligible for consideration for an admissions interview. The aim of this research is to assess the psycho-educational factors that underpin selection into medical school in relation to their future career intention. The research question driving the research was, "If students have definite interest in becoming a future doctor in their premedical course, does this relate to their levels of motivation, competitiveness, perceived stress, quality of life and grade attainment?"

Methods

A total of 1369 students who completed a biosciences assessment were asked to complete a survey that asked them to disclose their grade and to respond to a series of self-report measures that included: Motivated Strategies for Learning Questionnaire, World Health Organisation Quality Of Life questionnaire - New Zealand Version, Perceived Stress Scale, and Revised Competitiveness Index. The self-disclosed measures of academic attainment in the bioscience assessment were converted to numerical values (0=fail,1=C-,2=C,3=C+,4=B-,5=B,6=B+,7=A-,8=A,9=A+). It was hypothesized that those students who expressed an intention to be doctors would have higher self-reported scores and higher attainment than their non-doctor focused peers. To explore differences between those students who aim to be doctors versus those who do not, a binary logistic regression was conducted with four-blocks: demographic variables and bioscience grade at Block 1, competiveness measures at Block 2, quality-of-life measures at Block 3, and motivation measures at Block 4.

Results

A total of 339 (response rate = 25%) students in Biomedical Common Year 1 programme were eligible for this aspect of the research. At Block 1, grade predicted student career intentions with students intending to be doctor attaining higher grades than their non-doctor focused peers. At Block 2, enjoyment of competition and grade predicted future career intention, with students intending to be doctors showing more enjoyment of competition. At Block 3, physical health and environmental (which includes access to resources such as transportation and levels of affluence) quality of life measures significantly add to the model in terms of predicting career intention with students intending to be doctors generating higher ratings for environmental quality of life but lower for physical health. Lastly in Block 4, when the motivation measures were added to the model, no motivational scores predicted career intention.

Conclusion

Students with an intention to become a doctor tend to attain higher grades, show more enjoyment of competiveness and have better environmental quality of life scores. However, they also seem to have lower physical health scores. This may indicate that, in general, students who are admitted into medical school gain higher grades, are more competitive, and likely come from more affluent and well-resourced backgrounds but may have greater risks of physical health problems.

COMBATING DIAGNOSTIC ERROR: TESTING A SIMPLIFIED DELIBERATE REFLECTION TECHNIQUE

[1]*Rotgans J, [2]*Lim TK, [3]*Mamede S, [3]*Schmidt H*

[1]*Curriculum, Teaching, and Learning (CTL) Academic Group, Nanyang Technological University, National Institute of Education, Singapore, [2]Department of Medicine, Yong Loo Lin School of Medicine, National University of Singapore, Singapore, [3]Institute for Medical Education Research Rotterdam (iMERR), Erasmus University Medical Centre, Erasmus University, Netherlands*

Aims

Diagnostic errors are common and according to some sources responsible for nearly 100,000 fatalities every year in the United States alone. To reduce and correct mistakes in diagnostic reasoning, Mamede and Schmidt proposed a deliberate reflection technique that requires physicians to generate alternative hypotheses, consider supporting and disconfirming evidence, and rank-order the most likely diagnosis. The results of their studies demonstrated that this deliberate reflection technique is successful in correcting initial diagnostic errors, particularly when cases are complex. Although this technique has proven to be effective, it is time-consuming and involves multiple systematic steps, which limits its application to the practical field.

The objective of the present study was to explore if a shorter version of this technique can be used to produce similar results. The shorter version only involved considering the signs and symptoms that confirm or disconfirm the initial diagnosis. In addition, it was investigated whether confirmation or disconfirmation is more effective in correcting diagnostic error.

Methods

This study was a randomized experimental trial involving 55 residents from Singapore. Participants had to diagnose eight medical cases one-by-one. After each case, one group was instructed to identify signs and symptoms that support the initial diagnosis before reaching a final decision, whereas the second group had to identify signs and symptoms that do not support the initial diagnosis before reaching a final decision regarding the most likely diagnoses for each case.

Results

The results of a 2 (confirmation vs. disconfirmation) x 2 (pre and post diagnostic accuracy score) repeated measures ANOVA revealed that only the disconfirmation group improved their diagnostic accuracy score. This was particularly the case for the easier cases. These differences were however not statistically significant ($P = 0.40$). Pairwise comparisons (using the pre diagnostic accuracy score as a covariate) yielded statistically significant results in favour of the disconfirmation condition ($P <. 0.05$).

Conclusion

Although the findings of this study should be considered preliminary and tentative, the results suggest that a shortened deliberate reflection technique can potentially be used if there is insufficient time available or it is not feasible to apply the full deliberate reflection technique as proposed by Mamede and Schmidt. Second, disconfirmation seems to be the underlying mechanism responsible for making residents aware of their error. Implications of these findings for diagnostic reasoning will be discussed.

IMPLICIT LEADERSHIP THEORIES AND FOLLOWERSHIP INFORMS UNDERSTANDING OF DOCTORS' PROFESSIONAL IDENTITY FORMATION: A NEW MODEL

[1]**McKimm J,** [2]**Mannion H**

[1]*Medical Education, The Medical School, University of Swansea, United Kingdom,* [2]*Graduate Entry Medicine, The Medical School, Swansea University, United Kingdom*

Aims

The process of becoming and being a professional is a lifelong, constantly mediated journey. Professionals work hard to maintain their professional and social identities which are enmeshed in strongly held beliefs and emotions relating to 'selfhood' in a complex, changing world (1). Research on implicit leadership theories (ILT) has provided a useful insight in to the complex and highly individual relationship between follower and leader, as well as helping to explain why some leaders fall out in or out of favour and what their appeal is to different people (2). The idea of ILT can be applied to professional identity formation (PIF) and development, including self-efficacy. Recent literature on followership suggests that leaders and followers co-create the relationship and dynamic (3) and we suggest this also occurs in the clinical setting between doctors, other health professionals and patients/communities (4). This study builds on earlier work (5).

The aim of our research was to develop and test a new model which utilises implicit leadership theories and followership theory to help inform our understanding of doctors' professional identity formation.

Methods

Following a literature review, we applied the core concepts of ILT and followership theories to theories underlying professional identity formation by developing a mapping framework. We then identified core themes, similarities and differences between the three perspectives and constructed a new model of PIF incorporating elements from ILT and followership. We then applied the model to medical practice and leadership situations through scenario based narrative interviews.

Results

The new model greatly enhanced and strengthened our understanding of doctors' PIF and the leader-follower interactions and dynamics. The model offers insight into how concepts such as self-efficacy; prototypicality; implicit theories of self; power, authority and control and cultural competence work together to help form professional identities.

Conclusion

Bringing together the theoretical frameworks of ILT and followership theory with professional identity formation theories helps us understand and explain the unique dynamic of the clinical environment in a new light; prompting new ways of thinking about teams, interprofessional working, leadership and social identity in medicine. It also offers the potential for new ways of teaching, curriculum design, learning and assessment.

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CAN PRESENT MEDICAL EDUCATION OVERCOME THE INFLUENCE OF SOCIO-ECONOMIC DISPARITIES ON EDUCATIONAL OUTCOMES?

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Department of Community Medicine, Faculty of Medicine and Allied Sciences, Rajarata University of Sri Lanka, Sri Lanka

Aims

Novel approaches in medical education are aiming at maximizing students performances through equitable opportunities for students. We studied the effect of social and financial factors on students' performances to determine whether the present system is capable of minimizing the effect of those external factors on undergraduate performances.

Methods

A cohort of three batches of medical students was selected for this cohort study. Proxy indicators of social and financial status and self perception of financial situations were collected using a fully structured questionnaire after obtaining written informed consent. Students were followed up until their first end year summative assessment after the baseline assessment. Examination results as published; first class honors (1st class), second class upper division honors (2nd uppers), second class lower division honors (2nd lowers), pass without honors (pass) and referred in one or more subject (referred) were used as outcome measures. A logistic regression model was used to determine the association between the socio economic factors and educational outcomes.

Results

Total of 482 students from 3nd, 3rd and 4th years of medical school participated in this study. Results included 30(6.4%) 1st classes, 80 (17.0%) 2nd uppers, 159(33.8%) 2nd lowers, 123 passes (26.1%) and 79 (16.8%) referred. Of the 76 students in the highest income quartile, 10 (13.2%) had first classes compared to 20 (5.1%) from the rest. Of the 21 students declared as having major financial problems, only 2 (9.6%) had 2nd uppers compared to 108 (24.0%) of the others. Only 8/230 (3.5%) students receiving financial support due to poverty had first classes compared to 22/254 (9.1%) others. Thirty-two students were from families with five or more children and none of them had 1st classes and only 6 had 2nd uppers. All 30 (6.8%) first classes were from students with small family size (n=451). Of the 346 students satisfied with their English proficiency, 93 (27.6%) had 2nd uppers or 1st classes while only 17.8% of others had similar results. In the regression model, belonging to a large family (OR 4.4, 95% CI 1.02-19.04) English proficiency (OR .37, 95% CI .21-.67), residing in an insecure place due to affordability (OR 1.75, 95% CI .92-3.33) and belonging to highest income quartile (OR .61, 95% CI .36-1.06) were the factors retained in the model as predictors of 2nd uppers or first classes. English proficiency (OR .42, 95%CI .25- .70) and feeling of having major financial problems (OR 3.00, 95% CI 1.18-7.65) were associated with obtaining a pass.

Conclusion

Equitable delivery of training to eliminate social and economical disparities in undergraduate medical education should be more researched in to in order to eliminate disparities observed in this study.

CHALLENGES IN END-OF-LIFE (EOL) CONVERSATIONS AMONG INTENSIVE CARE UNIT (ICU) NURSES

[1]Poi CH, [2]Ong YH, [3]Teo WS, [3]Ng J

[1]*Palliative Medicine Department, Tan Tock Seng Hospital, Singapore, [2]Health Outcomes and Medical Education Research (HOMER), National Healthcare Group, Singapore, [3]Department of Medicine, Yong Loo Lin School of Medicine, National University of Singapore, Singapore*

Aims

Background:

Communicating care and concern for seriously ill patients and their families is an important and intrinsic part of critical care nursing philosophy. While critical nurses play an important role in meeting such information needs, communication around sensitive areas of end-of-life care can be challenging for even the most experienced critical care nurse.

Aim:

To evaluate the self-rated competency of critical care nurses handling end-of-life communication in three intensive care units at a tertiary hospital

Methods

This is a cross-sectional study. We surveyed 162 ICU nurses. The questionnaire comprised demographic variables and challenges pertaining to end-of-life communications with patients and their families, measured on a 5-point Likert scale (5=very comfortable, 1=extremely uncomfortable). We analyzed the quantitative data using SPSS Statistics Programme.

Results

96.9% nurses agreed that equipping nurses with good communication skills before their ICU rotation is just as important as other practical ICU skills. 98.2% nurses agreed that proper communication courses in a simulated environment should be conducted for nurses rotated to ICU. 97.5% nurses agreed that nurses in ICU should be empowered to update families independently.

However, we found that half of the respondents felt uncomfortable when discussing bad news with families, especially for nurses who worked in ICU for less than six years. There is a correlation between confidence level in discussing bad news with families and number of years working in ICU ($p<.01$). Results also revealed that 55% nurses lack confidence when dealing with angry families and 53.1% felt uncomfortable dealing with families who are not accepting poor prognosis of patients.

Conclusion

As the majority of nurses surveyed do not feel empowered to handle various aspects of EOL conversations in the ICU, implementing a communication course before their ICU tenure and continuing this training throughout their careers will allow them to be more confident in caring for critically ill patients and their families.

Friday 15th January 2016, 11.30am
VIP Lounge, Level 2, University Cultural Centre

INTERACTIVE SYMPOSIUM - BETTER JUDGEMENT: WHAT DOES TRAINING ASSESSORS ABOUT JUDGEMENT BIASES REALLY DELIVER?

Lambert Schuwirth, Lisa Schmidt, and Svetlana King
Prideaux Centre for Health Professional Education, School of Medicine, Flinders University, Australia

Aims

To provide a workshop on judgement biases in assessment

Methods

Judgement is a necessary component of assessment, both to determine the standard of performance and to inform feedback. There have been attempts to avoid subjective judgement via so-called 'objective' methods but this can be at the risk of validity, especially outside the realm of factual knowledge (Schuwirth & van der Vleuten, 2006). In particular, considering Miller's pyramid (knows, knows how, shows how, does) (Norcini, 2003), in the area of assessing the ability of a student to perform an action, it is expert judgement by experienced practitioners that is required.

Human judgement is the method for ensuring valid assessment in certain areas but it is subject to judgement biases (Plous, 1993). Biases are not prejudices; instead, they are misrepresentations in the assessor's mind of what occurred during the assessment exercise. Any bias might impact on an assessor's judgement of a student and shift grades up or down which would imply that biases are always bad and should be avoided. But biases are also unavoidable in decision making and they, thus, may either enhance or hinder fair judgement in the real-world, complex environment of practice-based assessment. This begs the question, "How we should train assessors about biases?" Our training focus is that it is futile to 'train-out' biases due to their 'hard-wired' nature in the cognitive architecture. Instead, we aim to raise assessors' awareness of biases so that they can recognise and give biases a place in their judgement and decision making Thus they can choose more consciously what to do with the assessment information they have. Also, this enables them to justify and articulate their judgements and decision and - as illustrated by the legal profession - it is the articulate justification for a decision that provides its credibility. Our analysis of the data collected so far indicates that the language that people acquire through the training is what is empowering - both in terms of their judgement and in terms of teaching teams being able to discuss assessment.

Results

Our training package is called 'Better Judgement' and has been funded by the Australian Government Office for Learning and Teaching. It includes video presentations to explain judgement biases and how they might influence assessors; and vignettes of obvious and subtle cases in which a certain bias occurs. The training package is available at www.flinders.edu.au/better-judgement. This is one of the many occasions on which we have provided this workshop. The reactions have been overwhelmingly enthusiastic and previous workshops have been oversubscribed.

Conclusion

The workshop has been conducted numerous times at national and international events with very positive reactions.

SYMPOSIUM 1 - ALIGNING CURRICULUM TO FUTURE PRACTICE

Clinical Skills of the Future
Trudie Roberts , United Kingdom

Back to The Basics: Education Ideas from Movies, Youtube and Books
Lau Tang Ching, Singapore

21st Century Skills and The Outcome-Based Curriculum
Prasit Watanapa, Thailand

S1

Friday 15th January 2016, 2.00pm
Hall, Level 1, University Cultural Centre

CLINICAL SKILLS OF THE FUTURE

Trudie Roberts
Director, Leeds Institute of Medical Education, University of Leeds, United Kingdom

Although we continue to test our students, both undergraduate and postgraduate, in performing clinical examination skills which have been around for centuries; the way we will practice medicine in the future will be very different than how we have done this in the past. In this talk I will highlight the revolutionary influence that technology is having on healthcare delivery and why we need a similar revolution in what clinical skills we need to teach our students to equip them to provide the best medical care in the future.

S1

Friday 15th January 2016, 2.00pm
Hall, Level 1, University Cultural Centre

BACK TO THE BASICS: EDUCATION IDEAS FROM MOVIES, YOUTUBE AND BOOKS

Lau Tang Ching
Vice Chairman Medical Board (Education), National University Hospital; and Associate Professor, Department of Medicine, and Assistant Dean (Education), Yong Loo Lin School of Medicine, National University of Singapore, National University Health System, Singapore

Healthcare educators lament the problems that are plaguing our healthcare education system today: namely the lack of engagement and commitment of the students, and the challenges in producing future ready healthcare professionals to cope with the increasingly complex and fluid healthcare needs. The talk will focus on three main objectives:

1) Discuss weaknesses and threats in the current healthcare education system.

2) Identify opportunities for change or refinement in healthcare education today.

3) Recognise importance of inter-professional education to prepare our healthcare workers for providing enhanced patient experience and better outcome.

S1

21ST CENTURY SKILLS AND THE OUTCOME-BASED CURRICULUM

Prasit Watanapa
Dean, Faculty of Medicine Siriraj Hospital, Mahidol University, Thailand

The design of new curriculum of medical education of Faculty of Medicine Siriraj Hospital, Mahidol University, started in early 2012. Representatives of Thailand Medical Council, National Health Security Office, Ministry of Public Health, directors of several hospitals under Ministry of Public Health, doctors and teaching assistants from our affiliated hospitals, doctors graduated from our Faculty of Medicine Siriraj Hospital, medical students, faculties of our Faculty of Medicine Siriraj Hospital and faculties of other faculties under Mahidol University who involve in medical education particularly during the premedical and preclinical years, deputy deans and assistant deans on undergraduate medical education and student affair were included in the three seminars on the design of our new curriculum of medical education. Moreover, 21st century skills were identified as essential components of medical education. Therefore, the conclusions derived from the seminars together with 21st century skills form the basis of our new outcome-based curriculum on medical education. Spending two years preparing faculties for the teaching-learning processes and outcome-based evaluation, the new curriculum started in 2014. Some changes have been observed among the students of this new curriculum, however, final evaluation of this new curriculum may need a few years after this first batch of students obtain their MD.

SYMPOSIUM 2 - SOCIAL RESPONSIBILITY AND ACCOUNTABILITY IN HPE

How Socially Accountable is NUS Medicine? Applying Training for Health Equity Network's (THEnet) Evaluation Framework
Gerald Koh, Singapore

Social Accountability of Medical Schools: From Learning to Practice
James Rourke, Canada

Social Responsibility and Accountability of Health Professional Schools to Meet Society's Healthcare Needs
Lam Tai Pong, Hong Kong S.A.R.

Friday 15th January 2016, 2.00pm
Theatre, Level 1, University Cultural Centre

HOW SOCIALLY ACCOUNTABLE IS NUS MEDICINE? APPLYING TRAINING FOR HEALTH EQUITY NETWORK'S (THENET) EVALUATION FRAMEWORK

Gerald Koh
Associate Professor, Saw Swee Hock School of Public Health, National University Health System, Singapore

In recent years, there has been increasing recognition that health professional education (HPE) institutions have a responsibility to do more than just train graduates to meet a set of professional standards. There is growing international recognition that schools training health professionals should (1) be held responsible for meeting the needs of the societies they serve (especially the underserved) and (2) produce graduates with competencies and attitudes to address health inequities and respond to priority health needs in partnership with the health sector, policy makers and communities, and are able to function as 'enlightened change agents' within health systems. The Training for Health Equity Network (THEnet) was founded in 2008 by seven schools of medicine and health sciences committed to direct their educational, research and service resources towards the priority health and health system needs of their reference population. THEnet developed a comprehensive evaluation framework as a mechanism to critically reflect on our progress towards social accountability, to evaluate the effectiveness of strategies designed to meet this goal and to facilitate learning from each other as strategies are shared. The framework was not designed as a summative exercise with a pre-determined pass mark nor as a 'tick box' for accreditation, but rather as an aspirational evaluation tool and formative exercise to help schools take an honest and critical look at their performance, progress, knowledge, skills and capacity towards social accountability, and assist schools in establishing priority areas for improvement. In this presentation, the author will apply the THEnet's evaluation framework for social accountability in HPE on NUS Medicine's undergraduate medical school to (1) assess its performance in producing doctors with competencies and attitudes to address health inequities and respond to priority health needs in partnership with the health sector, policy makers and communities, and (2) suggest priority areas for further improvement.

S2

Friday 15th January 2016, 2.00pm
Theatre, Level 1, University Cultural Centre

SOCIAL ACCOUNTABILITY OF MEDICAL SCHOOLS: FROM LEARNING TO PRACTICE

James Rourke
Dean, Faculty of Medicine, Memorial University of Newfoundland, Canada

This short presentation will focus on strategic social accountability priorities for medical schools and their students, staff and faculty.

S2

Friday 15th January 2016, 2.00pm
Theatre, Level 1, University Cultural Centre

SOCIAL RESPONSIBILITY AND ACCOUNTABILITY OF HEALTH PROFESSIONAL SCHOOLS TO MEET SOCIETY'S HEALTHCARE NEEDS

Lam Tai Pong
Professor, Department of Family Medicine & Primary Care, The University of Hong Kong, Hong Kong S.A.R.

Health professional schools have a responsibility to train competent health practitioners with knowledge, attitudes and skills to meet the society's healthcare needs, particularly the disadvantaged groups and underserved areas. In recent times, many newly graduated health professionals have a preference to choose hospital subspecialties than community based disciplines leading to an unbalanced workforce. The speaker will highlight the challenges and discuss the possible steps to help improve the undesirable trend.

SYMPOSIUM 3 - DEVELOPING CONDUCIVE LEARNING ENVIRONMENT

Developing Standards for Behavioural and Social Sciences Education in Medical Schools in India
Y S Sivan, India

Learning Medicine through Community Engagement in the Rural Context
Roger Strasser, Canada

Why a Well-Resourced Student Affairs Team is Critical for a Conducive Learning-Environment in Medical School?
Marie-Veronique Clement, Singapore

DEVELOPING STANDARDS FOR BEHAVIOURAL AND SOCIAL SCIENCES EDUCATION IN MEDICAL SCHOOLS IN INDIA

Y S Sivan

Associate Professor in Social Research, Department of Community Medicine, PSG Institute of Medical Sciences & Research, Coimbatore, India

Aims

India has made strides in conquering many of its public health problems but there are many areas that need specific attention. Health is also socially (social, cultural, economic, political and behavioural factors influencing health) determined and therefore, behavioural and social sciences (BSS) and social determinants of health (SDH) education in medical schools is imperative. There is no uniformity in its implementation, organizational matters and human resources aspects. This calls for an exercise in bringing in uniformity and standardization. This study, therefore, seeks to develop standards for BSS education in medical schools in India.

Methods

A framework was developed to identify areas and sub-areas and domains in BSS teaching. Based on literature review including key documents such as WFME's standards for Basic Medical Education, and those of the MCI, GMC, UK and AAMC, domains were identified. These include curriculum, guidelines, training, human resource, time and topics and recognizing its need. Apart from this, deficiencies and barriers in teaching BSS in medical schools were identified. These were then related to corresponding (suggested) remedies as well as a perceived paradigm shift in approach. These in turn were allocated under relevant areas and sub-areas within which standards were specified. (WFME Standards for Basic Medical Education document was adopted as the model for formatting the BSS Standards document).

Results

The areas identified include core contents for teaching, instructional methods, student assessment, human resource (includes background qualification, training, training curriculum, training settings, expected competencies, recruitment, expected job responsibilities and continuing professional development), teaching and learning resources, organizational matters, and programme evaluation for quality improvement. Relevant aspects of social accountability were taken into consideration. Based on these, a national standards document was developed with the help of identified areas and sub-areas.

Conclusions

Developing standards in BSS education in medical schools based on identification of areas using a framework is expected to result in uniformity and quality improvement in BSS education in medical schools apart from facilitating effective scrutiny of SDH by medical undergraduate students. This process may be replicated in other settings.

S3

Friday 15th January 2016, 2.00pm
Function Room 1, Level 1, University Cultural Centre

LEARNING MEDICINE THROUGH COMMUNITY ENGAGEMENT IN THE RURAL CONTEXT

Roger Strasser
Professor of Rural Health, Dean and CEO, Northern Ontario School of Medicine, Lakehead and Laurentian Universities, Canada

Northern Ontario in Canada is geographically vast with a volatile resource based economy, forty percent of the population in remote rural areas, diverse communities and cultural groups, a poor health status and a chronic shortage of doctors and other health professionals. Recognizing that medical graduates who have grown up in a rural area are more likely to practice in rural settings, the Government of Ontario decided in 2001 to establish the Northern Ontario School of Medicine (NOSM) with a social accountability mandate to contribute to improving the health of the people and communities of Northern Ontario.

Community Engagement is the central feature of NOSM and its programs. Uniquely developed through a community consultative process, the holistic cohesive curriculum for the NOSM undergraduate program is grounded in Northern Ontario health context, organized around 5 themes and relies heavily on electronic communications and community partnerships to support Distributed Community Engaged Learning (DCEL). In the classroom and in clinical settings, students explore cases from the perspective of doctors in Northern Ontario. Interprofessional education and integrated clinical learning take place in over 90 communities and many different health service settings.

There are signs that NOSM is successful in graduating doctors who have the skills and the commitment to practice in Northern Ontario or other rural underserved areas; and that the rural distributed community engaged school is having a largely positive and pervasive socio-economic impact on Northern Ontario.

S3

Friday 15th January 2016, 2.00pm
Function Room 1, Level 1, University Cultural Centre

WHY A WELL-RESOURCED STUDENT AFFAIRS TEAM IS CRITICAL FOR A CONDUCIVE LEARNING-ENVIRONMENT IN MEDICAL SCHOOL?

Marie-Veronique Clement
Associate Professor, Department of Biochemistry, Yong Loo Lin School of Medicine, National University of Singapore, National University Health System, Singapore

I will share my experience as the Assistant Dean Education (Student Affair) and reflect on why I believe that an holistic students support that includes emotional support, increase awareness of the importance of self-care, academic support and a vibrant students' life is an integral part of the journey to become a competent and caring physician.

L2

Friday 15th January 2016, 3.15pm
Hall, Level 1, University Cultural Centre

PRACTICE WHAT YOU PREACH: EDUCATION FOR CAPABILITY AND A BLUE OCEAN STRATEGY

Ronald M Harden
Professor of Medical Education (Emeritus), University of Dundee; General Secretary of AMEE and Editor of Medical Teacher, United Kingdom

At previous APMECs we have looked at how we can train doctors more effectively through outcome-based education, integration and curriculum change, improved assessment, the continuum of education, better collaboration between the stakeholders, better training of the teacher and the promotion of scholarship and excellence in medical education. The question to be asked, however, is whether in medical schools we are achieving what we have set out to achieve. At present there is a 'leap of faith' between the curriculum as delivered and what is expected of the doctor in practice. Translation of what students have learned into the application of work-based skills can be complex. There is a need to better align the curriculum with healthcare needs and to train doctors who are capable of meeting the needs of the public they are to serve. This involves a move from the ivory tower to the real world, and an integration of education with the healthcare system.

Students need to develop capabilities beyond knowledge acquisition and skill mastery. Capability requires emotional intelligence, cultural competency, ethical understanding, interpersonal skills, team and leadership skills and an understanding of quality improvement and safety. Such capabilities are not necessarily acquired by osmosis. We need to judge the success of our medical schools, not in terms of how well the students perform in our schools and in our examinations, but whether they have the capabilities required and how they perform in the real world of medical practice. There has been in general a conservative and risk averse culture in relation to major change in medical education and schools continue to function in the 'red ocean' in competition with other schools in terms of research and other metrics as defined in the Times Higher and other rankings of medical schools. A move to education for capability is an opportunity for schools to excel by adopting a 'blue ocean' strategy.

S4

SYMPOSIUM 4 - RESEARCH IN MEDICAL EDUCATION IN THE ASIA PACIFIC REGION: CHALLENGES AND POSSIBILITIES

[1]**Gominda Ponnamperuma,** [2]**Danai Wangsaturaka,** [3]**Ming-Jung Ho,** [4]**Hiroshi Nishigori and** [5]**Sun Kim**

[1]*Senior Lecturer, Faculty of Medicine, University of Colombo, Sri Lanka,* [2]*Lecturer, Faculty of Medicine, Chulalongkorn University, Thailand,* [3]*Professor, Department of Medical Education & Bioethics, and Vice Chairman of the School of Medicine and Assistant Dean for International Affairs, National Taiwan University College of Medicine, Taiwan, and* [4]*Associate Professor, Center for Medical Education, Kyoto University, Japan and* [5]*Professor, Department of Medical Education, College of Medicine, The Catholic University, South Korea*

Medical educators in Asia Pacific countries often experience difficulty in applying the research findings generated in the Western world. This may be because most research evidence has been developed on theoretical and cultural constructs specific to the Western countries. Though we recognize that we need to conduct more research in medical education from our region, it is often quite challenging. This symposium will focus on how best we could foster medical education research with a cross-cultural point-of-view. Five panelists will deliberate what "cultural conflict in medical education" is like and how they have dealt or are dealing with it. We look forward to discussing ways of fostering cultural diversity in medical education.

SYMPOSIUM 5 - DEVELOPING LEARNERS FOR FUTURE INTER-PROFESSIONAL COLLABORATIVE PRACTICE

Developing Learners for Future Interprofessional Collaborative Practice
Chow Yeow Leng, Singapore

Approaches to Implement IPE – the NUS Experience
Christine Teng Bee Choon, Singapore

Credentialing Organizations for Interprofessional Education: Structure, Process and Outcomes
Kathy Chappell, USA

Friday 15th January 2016, 4.15pm
Theatre, Level 1, University Cultural Centre

DEVELOPING LEARNERS FOR FUTURE INTERPROFESSIONAL COLLABORATIVE PRACTICE

Chow Yeow Leng
Associate Professor & Director of Education, Alice Lee Centre for Nursing Studies, Yong Loo Lin School of Medicine, National University of Singapore, National University Health System, Singapore

Imagine the journey of a patient from the time of admission to discharge when he or she would have encountered several healthcare professionals, even more so when the patient has complex healthcare issues. The worse scenario would be when care is affected due to lack of communication and collaboration between the healthcare professionals. Therefore it is imperative to ensure healthcare professionals possess the competencies to practice collaboratively. The World Health Organization has been preemptive in advancing Inteprofessinal education (IPE) as far back as 1973, but the degree in which IPE develops differs in different countries.. Often time and understandably so, students perceive professional-specific learning experiences as being more important than interprofessional learning as collaborative practice seems remote in the beginning of their learning journey. Fostering of collaborative practice ought to start from pre-licensure education such as that in the medical, nursing and allied health professional undergraduate curriculum. On the outset, students learn from and about each other's role and the contribution each has towards the patient's total experience. Measures focus on enabling the learners to see the significance between their educational experiences and their current or future practice require efforts and commitments from the faculty. This paper will examine the different strategies that are employed in the delivery of IPE in the undergraduate nursing curriculum under the auspices of the Interprofessional education initiative within the School of Medicine, National University of Singapore and the challenges faced in its implementation.

S5

Friday 15th January 2016, 4.15pm

Theatre, Level 1, University Cultural Centre

APPROACHES TO IMPLEMENT IPE – THE NUS EXPERIENCE

Christine Teng Bee Choon

Assistant Professor, Department of Pharmacy, National University of Singapore, Singapore; and Principal Pharmacist (Clinical), Department of Pharmacy, Tan Tock Seng Hospital, Singapore

In 2010, the World Health Organization established a "Framework for Action on Interprofessional Education and Collaborative Practice". WHO recognizes that "Interprofessional education (IPE) is a necessary step in preparing a "collaborative practice-ready" health workforce that is better prepared to respond to local health needs." At around the same time, NUS established its Interprofessional Education Steering Committee and that marked the beginning of IPE in Singapore. Pharmacy undergraduates in NUS, together with students from Medicine, Dentistry, Nursing and Social Work are exposed to different elements of IPE through core and elective curricular activities. This presentation will highlight the approaches adopted in the implementation of IPE in NUS.

S5

Friday 15th January 2016, 4.15pm

Theatre, Level 1, University Cultural Centre

CREDENTIALING ORGANIZATIONS FOR INTERPROFESSIONAL EDUCATION: STRUCTURE, PROCESS AND OUTCOMES

Kathy Chappell

Vice President, Accreditation Program and Institute for Credentialing Research, American Nurses Credentialing Center, USA

The Accreditation Council for Continuing Medical Education (ACCME), Accreditation Council for Pharmacy Education (ACPE) and the American Nurses Credentialing Center (ANCC) aligned three accrediting systems to create a unified "joint accreditation" process for organizations that develop education for the healthcare team. Goals of joint accreditation are to support interprofessional collaborative practice (IPCP) through interprofessional continuing education (IPCE), and to streamline the accreditation processes. IPCE is designed to address professional practice gaps of the healthcare team using an educational planning process that reflects input from those healthcare professionals who make up the team. IPCE is designed to change skills/strategy or performance of the healthcare team, or patient outcomes. Outcomes of jointly accredited providers including universities, healthcare systems, governmental agencies and private education companies will be shared.

Friday 15th January 2016, 4.15pm
Function Room 1, Level 1, University Cultural Centre

SYMPOSIUM 6 - DEVELOPING SCHOLARSHIP IN USING TECHNOLOGY TO ENHANCE TEACHING AND LEARNING

[1]*John E Sandars, and* [2]*Poh-Sun Goh*

[1]*Senior Professor in Medical Education, University of Sheffield, United Kingdom,* [2]*Associate Professor and Senior Consultant, Department of Diagnostic Radiology, National University Hospital, National University Health System, Singapore*

Improving the scholarship of medical educators using technology to enhance teaching and learning requires a clear and explicit justification of how the intervention has been developed, implemented and evaluated. The importance of an inquiry based approach to scholarship will be highlighted, with the use of practitioner and action research. The key principles with be illustrated with practical examples.

L3

Friday 15th January 2016, 5.30pm
Hall, Level 1, University Cultural Centre

INTO THE WOODS: MEETING THE CHALLENGE OF CLINICAL CULTURE

Ming-Jung Ho
Professor, Department of Medical Education & Bioethics, and Vice Chairman of the School of Medicine and Assistant Dean for International Affairs, National Taiwan University College of Medicine, Taiwan

In medical education, we have been promoting cultural competence training to improve care for patients with diverse cultural backgrounds. Despite significant efforts to help students understand the culture of patients, medical educators have not paid enough attention to the culture of clinical practice, or "clinical culture". In doing so, we reinforce a narrow notion of culture as a 'static set of ideas and beliefs that only other people possess.'

This presentation will explore three major challenges of clinical culture that medical students face when they enter into the woods of clinical medicine,' similar to the naïve characters of the musical/ movie, Into the Woods. It also proposes a number of strategies for overcoming these challenges.

The first challenge is medicine's "culture of no culture". Social scientists have critiqued medical education for its narrow focus on culture as a static set of ideas and beliefs possessed by others. Medical knowledge is portrayed as not "cultural" but real. Through education, medicine (re)produces itself to be "a culture of no culture". To overcome this, medical educators can design reflective exercises that encourage students to critically examine the professional culture of medicine.

The second challenge is othering and stereotyping of patient culture. Traditional approaches tend to ascribe lists of beliefs and practices to a certain cultural groups, resulting in othering and stereotyping, with potential negative implications for patient care. Similarly, medical students that uphold the belief that medical knowledge is truth are at risk of blaming patient culture as a barrier to delivery of care. A potential remedy to this problem is the development of patient-centered cultural competency training that emphasizes respectful communication skills and the consideration of patients' diverse and complex life experiences.

The third challenge of clinical culture is the exclusion of patient social contexts. Sociologists have proposed shifting the focus away from cultural factors of nondominant groups to the study of social factors contributing to unequal distributions of power and resources in clinical culture in line with "insurgent multiculturalism". This approach goes beyond the doctor-patient relationship and examines the social causes of inequalities. Strategies include providing students with opportunities to consider the cultural and social factors impacting health inequality and develop long-term relationships with nondominant groups.

SPECIAL INTEREST GROUP (SIG) SESSION

SIG 1 – ROLE OF AMEWPR IN DEVELOPING ACCREDITATION STANDARDS FOR THE WESTERN PACIFIC REGION
Ducksun Ahn, South Korea and Theanne Walters, Australia

SIG 2 – SOCIAL RESPONSIBILITY AND ACCOUNTABILITY IN HEALTH PROFESSIONAL EDUCATION
James Rourke, Canada

Saturday 16th January 2016, 8.00am
Hall, Level 1, University Cultural Centre

ROLE OF AMEWPR IN DEVELOPING ACCREDITATION STANDARDS FOR THE WESTERN PACIFIC REGION

[1]Ducksun Ahn and [2]Theanne Walters

[1]Professor, College of Medicine; and President, Korean Institute of Medical Education and Evaluation, Republic of Korea, and [2]Deputy Chief Executive Officer, Australian Medical Council, Australia

Speakers in this session have been closely involved in the development of standards for the accreditation of medical schools in individual countries in the Western Pacific Region (Australia and Korea), and in the region as a whole, based on the global standards for Basic Medical Education issued by the World Federation for Medical Education. The process of developing or adapting standards to make them appropriate for use in a local or regional setting will be outlined, and the version of the standards used by Association for Medical Education in the Western Pacific Region will be specifically highlighted.

Saturday 16th January 2016, 8.00am
Theatre, Level 1, University Cultural Centre

SOCIAL RESPONSIBILITY AND ACCOUNTABILITY IN HEALTH PROFESSIONAL EDUCATION

James Rourke
Dean, Faculty of Medicine, Memorial University of Newfoundland, Canada

Social accountability is fundamentally about how health professionals individually and collectively engage, partner with and respond to the needs of their communities in their practice, education and research. The discussion will center on how we can do this effectively and how we can measure the impact. Participants are invited to review the materials on social accountability at www.aspire-to-excellence.org as a starting point for discussion.

FREE COMMUNICATION 5 – WELLNESS OF STUDENTS AND TEACHERS

Investigation of Mental Health Related Attitude Among Nursing Students: Description and Influential Factors
Geng Xiaowei, China

Stress, Anxiety, Depression and Their Associated Factors Among Health Care Students
Heethal Jaiprakash, Malaysia

Self-Perceived Stress and Its Association with Working Efficiency of Junior Doctors During Three Saudi Postgraduate Residency Training Programs
Hamza Abdulghani, Saudi Arabia

INVESTIGATION OF MENTAL HEALTH RELATED ATTITUDE AMONG NURSING STUDENTS: DESCRIPTION AND INFLUENTIAL FACTORS

Geng X

Department of Nursing, School of Nursing, Peking University Health Science Center, China

Aims

To investigate the mental health related stigma among nursing students and explore the possible influential factors.

Methods

A cross-sectional survey was conducted in which 188 nursing students were enrolled. A self-design questionnaire and MICA-MS (Chinese version) were used to investigate their attitude toward mentally-ill patients.

Results

The score of MICA-MS is 44.98±7.51, with eight items' average score above 3.0. Significant differences in stigmatizing attitudes were found by grades (F=6.286, p=0.000), knowledge learning (t=2.293, p=0.023) and service providing (t=2.678, p=0.008).

The mental health related stigma is worse among higher grade, students who have learned knowledge, and students who have provide service to people with mental disorder. No significant differences have been found by gender, origin, and general social contact.

Conclusion

Participants held a stigmatizing view toward mentally-ill patients in general and on particular items related to safety and communication along with perceived-stigma and the stigmatizing attitude of higher grade is worse, which implies a well-designed mental health course along with clinical placement is needed and it might be an effective education strategy in improving nursing students' attitudes toward people with mental illness.

STRESS, ANXIETY, DEPRESSION AND THEIR ASSOCIATED FACTORS AMONG HEALTH CARE STUDENTS

[1]*Jaiprakash H*, [2]*Mohanraj J*, [3]*Ko Ko Min A*, [4]*Ghosh S*, [1]*Govindaraja C*

Departments of [1]*Pharmacology*, [2]*Biochemistry*, [3]*Community Medicine*, and [4]*Physiology*, *Medical Faculty, MAHSA University, Malaysia*

Aims

To determine the prevalence of stress, anxiety and depression and their associated factors among health care students.

Methods

This is a cross sectional study conducted on 703 students from medicine, dentistry, nursing and physiotherapy at MAHSA University. Data was collected using two questionnaires, which includes:

1. Sociodemographic questionnaire-It includes gender, age, race, faculty, rural/ urban background, whether involved in part time work, course satisfaction.

2. DAAS 21 Questionnaire- It contains 21 items and scoring is done by the likert scale. It tests 3 domains stress, anxiety and depression. A score of above 9 in the depression domain, above 7 in the anxiety domain and above 14 in the stress domain is said to be having depression, anxiety and stress respectively. Descriptive statistics and inferential analysis were done using SPSS 19.0.

Results

A total of 703 students were included in the study which comprised of 347 medical, 157 dental, 75 nursing and 124 physiotherapy students. We found that depression (85%), anxiety (89%) and stress (65%) were more among the nursing students compared to students of other faculty. Females were found to have predominance for depression (77%), anxiety (55%) and stress (53%) as compared to males. When we analysed the different races we found that Malays had a higher rate for depression (67%), anxiety (85%) and stress (59%) compared to the other races. It was observed that the students who took a part time job while they were studying had higher potential to develop stress, anxiety and depression. Students who had a rural upbringing were more depressed, anxious and stressed compared to the ones with a urban upbringing. We also found that students who were satisfied with the faculty they chose were less depressed, anxious or stressed as compared to the ones who were not satisfied with the faculty they chose.

Conclusion

Students who were undergoing the nursing program had more depression, anxiety and stress as compared to the other faculty. Female students, Malay students, students taking up a part time job, students with a rural upbringing and student's dissatisfaction with the program they chose were some of the associated factors for depression, anxiety and stress. Early diagnosis and effective interventional measures can prevent possible future mental illnesses among students of health care courses.

SELF-PERCEIVED STRESS AND ITS ASSOCIATION WITH WORKING EFFICIENCY OF JUNIOR DOCTORS DURING THREE SAUDI POSTGRADUATE RESIDENCY TRAINING PROGRAMS

[1]*Abdulghani H*, [2]*Alharbi M*, [1]*Irshad M*

Departments of [1]Medical Education and [2]Family Medicine, College of Medicine, King Saud University, Saudi Arabia

Aims

Residency training period in the medical profession is well known for physical and mental stress, which may affect their cognitive function and practical life. Emotional impairment, depression, burnout and post-traumatic stress symptoms are commonly reported during residency training programs. There are paucity of studies to investigate such important issues locally. Therefore, this study was initiated to assess prevalence of stress among the resident trainees of three specialties of Saudi Commission for Health Specialties (SCHS) training programs, namely; Internal Medicine (IM), Emergency Medicine (EM) and Family Medicine (FM), and their association with training years, medical specialties, gender and marital status. Also to correlate the stress levels with the working efficiency and self-perceived general health problems.

Methods

All male and female medical graduates who were taking residency training in EM, IM and FM postgraduate programs, were invited through SCHS, Riyadh, Saudi Arabia to participate in the study. An anonymous, self-administered questionnaire which is a validated stress inventory known as Kessler 10 for stress measurement, was used to measure their stress levels. A nonrandom, convenient sampling technique was employed to collect the data due to the varied distribution of residence trainees in three different specialties. All participants were allowed to respond at their convenience and available times, and their privacy was secured, and the participation was entirely voluntary. Pearson's chi-square test $(X2)$ and odds ratios (ORs) were used to quantify the associations between categorical variables in bi-variate analysis and binary logistic regression was used in multivariate analysis. A p-value of ≤ 0.05 was considered statistically significant.

Results

A total of 318 (out of 389, with the response rate of 82%) resident trainees participated in this study. The mean (standard deviation) age of study population was 27.9 (1.6) years. The results showed 70.4% of resident trainees had stressful conditions, which consist of severe stress 22.6%, moderate stress 20.4% and mild stress 27.4%. During first year (R-1) moderate stress (OR = 5.87; 95% CI = 2.93-17.79; p = 0.001) and severe stress (OR = 11.15; 95% CI = 4.35-28.51; p <0.0001) levels were high. The highest stress level was found in Emergency Medicine (80.5%), followed by Internal Medicine (73.6%) and Family Medicine (63.2%) (X2 = 6.42; p = 0.04). The stress level decreased with the increase of years of training in Emergency Medicine (X2=23.76; p< 0.0001) and Internal Medicine (X2=60.12; p<0.0001), whereas increased in Family Medicine (X2=11.80; p=0.008). High stress level was significantly associated with cut-down in duty days (X2=28.48, p<0.0001), inefficient day activities (X2=39.15; p<0.0001) and general health problems (X2=45.27; p<0.0001) of the resident trainees.

Conclusion

We found significant high levels of stress among the resident trainees of the three training programs. These high levels of stress may have an effect on their working efficiently and general physical health. Hence, resident trainees need support and subsequent intervention to cope with their perceived stress.

L4

FROM EDUCATION TO FUTURE PRACTICE: TRENDS, ISSUES, PRIORITIES, STRATEGIES (TIPS)

Trudie Roberts
Director, Leeds Institute of Medical Education, University of Leeds, United Kingdom

We are undergoing a revolution in the way medicine is practised. Patients are more involved in their own healthcare and the ubiquitous access to information means that they are more informed. Additionally, strides in technology mean that the world in which our students will work is going to be different than anything we have seen previously. Educators need to reassess their curricula to ensure that their graduates will be ready to enter a very different healthcare delivery system. In this talk I will explore the potential that technology offers doctors and patients and look at how educators should respond to provide a learning revolution.

FREE COMMUNICATION 6 – TEACHING AND LEARNING 2

Obstetrics Emergency Training for Midwives In Kampong Chhnang, Cambodia
Lek Sze Min, Singapore

Taking Anatomy outside the Dissection Laboratory: Hand-Held Ultrasound Devices for Self-Directed Learning of Living Anatomy
Anjali Bhagra, United States of America

A Longitudinal Inter-Professional Education Community (LIPEC) Programme: A Preliminary Study to Explore Factors Influencing Nursing Students' Participation
Lau Siew Tiang Lydia, Singapore

Traditional Microscopy for Teaching-Learning in Histology Practical in Undergraduate Medical Education in Bangladesh- A Student and Teacher Perspective
Rukshana Ahmed, Bangladesh

Mandala Making for Assessing Medical Student Well-being
Julie Chen, Hong Kong S.A.R.

Adaptation of Flipped Classroom to Faculty Induction Program: Conducting A Mini CEX
Koh Kwong Fah, Singapore

"Just Tell me What I Need to Know to Pass the Exam!" Can Flipped Lectures Overcome Passivity?
Diane Kenwright, New Zealand

OBSTETRICS EMERGENCY TRAINING FOR MIDWIVES IN KAMPONG CHHNANG, CAMBODIA

[1]Lek SM, [2]Foo S, [2]Mathur M, [3]Tagore S, [3]Kwek K

[1]Medical Education, Research and Evaluation Department, Academic Medicine Education Institute, Duke-NUS Medical School, Singapore, [2]Department of Obstetrics and Gynaecology and [3]Peripartum Unit, Academic Medicine Education Institute, KK Women's and Children's Hospital, Singapore

Aims

One of the eight Millennium Development Goals (MDG) for Cambodia is MDG 5: Improve maternal health, and on this front, Cambodia has made some progress, albeit slow. While official statistics suggest Cambodia achieved a 47% decrease in maternal mortality rate (MMR) from 432 per 100,000 in 2000 to 206 per 100,000 in 2010, it still has one of the highest MMR in the region. The leading causes of maternal morbidity are post-partum haemorrhage, severe pre-eclampsia, and sepsis. Therefore, we set out to train skilled health attendants, namely midwives, in obstetric emergencies with a focus on early recognition, rapid response, and effective management of common obstetric emergencies.

Methods

The training programme consists of didactic lectures and hands-on simulation stations adapted from the Combined Obstetrics Resuscitation and Emergency Training (CORE) conducted in KKH. Content of the lectures and drills was heavily modified to the needs of the population and existing medical facilities which we explored during our feasibility trips before the training. The team worked closely with local health centers and hospitals to streamline their clinical workflow and tailor standard operating protocols to the local system. Models and simulated scenarios were used to demonstrate important obstetrics emergencies and its management as well as the use of the preeclampsia and postpartum haemorrhage kits.

Results

Almost 200 midwives had been trained under this programme and many attest to how this training has impacted their practice. Trainers are chosen from past participants to ensure sustainability, continuity and replicability and many trainees teach their fellow midwives in the health centers. This has directly resulted in a decrease in maternal and neonatal mortality where number of deaths has been on a steady decline and percentage of maternal deaths per 100,000 live births has decreased to 58.64% in 2014 from 67.40% in 2012.

Conclusion

Since the inception of our training programme, there is a steady decline in maternal deaths. A combination of didactic lectures and simulation stations has proven to be effective training tools to improve clinical practices. In addition, identifying outstanding past participants to train as future trainers in a "train-the-trainers" manner ensures programme sustainability. Also, beyond skills training, helping to look into streamlining processes and putting in place systems such as quality assurance and proper documentation has far reaching impacts on ensuring good maternal care. The lessons learnt are invaluable in replicating the training even beyond the borders of Cambodia, to other developing countries in South East Asia.

TAKING ANATOMY OUTSIDE THE DISSECTION LABORATORY: HAND-HELD ULTRASOUND DEVICES FOR SELF-DIRECTED LEARNING OF LIVING ANATOMY

[1]*Bhagra A*, [2]*Lachman N*, [3]*Glavin M*, [2]*Pawlina W*

Departments of [1]General Internal Medicine, and [2]Anatomy, Mayo Clinic College of Medicine, Mayo Clinic, United States of America, [3]Mayo Medical School, Mayo Clinic College of Medicine, Mayo Clinic, United States of America

Aims

There is an increasing trend in the United States to adopt formal ultrasound teaching and learning sessions into the medical curricula. Ultrasound imaging has been successfully incorporated into gross anatomy courses due to its potential to enhance understanding of anatomical concepts. At Mayo Medical School, the anatomy curriculum is designed to promote self-directed learning both inside and outside of the laboratory setting. An innovative approach of utilizing portable, hand-held, user-friendly, tablet-sized ultrasound devices to reinforce self-directed learning of anatomy was implemented. In this blended learning model, students were taught cadaveric anatomy as well as sonographic visualization and assessment of anatomical structures and organs (i.e., thyroid gland, kidney, liver, gallbladder, abdominal aorta, rotator cuff muscles, and carpal tunnel). Specific aims of this study were to assess the perceived value of the self-driven learning experience of anatomy using the portable hand-held ultrasound devices.

Methods

The ultrasound curriculum was embedded in the first-year gross anatomy course consisting of: (1) structured didactic sessions lead by faculty instructors and (2) open house, hands on, near-peer teaching elective sessions supervised by teaching assistants and residents utilizing ultrasound in their clinical practice. All first-year medical students (n = 53) participated in the study. They underwent training in the use of hand held ultrasound devices during the laboratory sessions. These sessions were guided by on-line modules that covered different organ systems. At the completion of the anatomy course, each dissection team (4 students) received a hand-held ultrasound device for remainder of the academic year. Students were encouraged to use the device to scan each other in their free time. Surveys using a five-point Likert scale were conducted at quarterly intervals to assess students' perceptions and experiences with using portable hand-held ultrasound device. Qualitative and quantitative methodologies were used to analyze data.

Results

A total of 32 students participated in the survey (60.1 % return rate). On the five-point Likert scale (5 = strongly agree and 1= strongly disagree) students appreciated having a high quality, portable ultrasound device during the anatomy course that improved and enhanced their understanding of anatomy (3.84 ± 1.08). Students also agree that the implementation of ultrasound was beneficial to the longitudinal learning experience (4.06 ± 0.90), and that the ultrasound device was easy to use (3.96 ± 0.93). In written comments students would like to see improvement of logistics and have a defined schedule for rotating ultrasound devices among themselves.

Conclusion

A user friendly, hand-held ultrasound device may be an effective tool to enhance and reinforce student understanding and appreciation for living anatomy, as it would in the future relate to point-of-care diagnostics in the clinical setting. Using a portable hand-held device will encourage medical educators to design curricula that support early introduction and integration of ultrasound as an innovative tool in medical education.

A LONGITUDINAL INTER-PROFESSIONAL EDUCATION COMMUNITY (LIPEC) PROGRAMME: A PRELIMINARY STUDY TO EXPLORE FACTORS INFLUENCING NURSING STUDENTS' PARTICIPATION

Lau LST, Lopez V, Liaw SY
Alice Lee Centre for Nursing Studies, Yong Loo Lin School of Medicine, National University of Singapore, Singapore

Aims

Traditionally, clinical education is unprofessional and concentrated in the acute settings for undergraduate nursing students. There is an urgent need for curricula changes to restructure clinical education due to the rapidly changing healthcare demographics. A longitudinal Inter-Professional Education Community (LIPEC) programme was developed to better prepare the Alice Lee Centre for Nursing Studies' students to be competent collaborative practitioners graduate nurses. A longitudinal study is currently underway to evaluate the effectiveness of LIPEC. This paper aims to describe the longitudinal Inter-Professional Education Community (LIPEC) programme and explore factors influencing the undergraduate nursing students' decision to their voluntary participation in the LIPEC programme.

Methods

The LIPEC programme was developed guided by the interprofessional education for collaborative patient-centred practice conceptual framework. The model consists of two related systems: the education and professional systems. The systems framework were meant to improve interventions at all levels of the systems and ultimately, integrating the different disciplines. The LIPEC is a one year programme consisting of two parts. Part one provides an interprofessional service learning opportunities in community setting, and part two of the programme emphasizes on case management for clients who requires community home care. An exploratory study was conducted to examine factors influencing Year one undergraduate nursing students' participation in the programme. All year one nursing students were approached to complete a questionnaire survey consists of demographic information and reasons for their participation.

Results

A total of 97 (100%) year one undergraduate nursing students completed the questionnaire survey with 63 (64%) volunteered (intervention group) for the LIPEC programme and 35 (36%) declined participation (control group). It was found that more female (n=54, 66%) agreed to participate in the programme as compared to male (n=8, 53%). The main reasons for students who volunteered for the programme were keen interest to find out more (n=51, 54%) and learning about community care (n=51, 54%). 23 students (25%) indicated that they were exploring community nursing as a possible future career choice. The main reasons for students who opt out of the programme included extra-curricular activities (n=17, 18%), work and family commitment (n=22, 24%). There was only one respondent who indicated no interest in working with older persons. No significant differences were found between intervention and control groups for demographic factors including age, gender, religion, race and existing personal volunteer participation using independent t-test.

Conclusion

The findings indicated that generally the undergraduate nursing students are keen to participate in the LIPEC programme, and the main obstacle which prevented participation was due to competing commitment. The strategies to enhance participation include recognising and integrating the community care into the clinical education curriculum, and exploring flexible time tabling to enable students to schedule visits within curriculum hour.

TRADITIONAL MICROSCOPY FOR TEACHING-LEARNING IN HISTOLOGY PRACTICAL IN UNDERGRADUATE MEDICAL EDUCATION IN BANGLADESH- A STUDENT AND TEACHER PERSPECTIVE

**Ahmed R**
Centre for Medical Education, Bangladesh

Aims

One of the major areas of laboratory teaching in the undergraduate medical curriculum has been Histology (also called microanatomy), where the light microscope has been the primary laboratory instructional tool. By gathering views of students and teachers, perception regarding the use of microscopes in Histology practical classes in undergraduate medical education in Bangladesh can be assessed.

Methods

This descriptive type of cross-sectional study was carried out in ten medical colleges (four public and six private) from January 2014 to December 2014. A total of 824 students were enrolled in a survey, 480 from public and 350 from private medical colleges. A total of 21 teachers, whose classes were observed, were enrolled for in-depth interviews. A semi-structured questionnaire having multiple response answers was used for obtaining information from the students. For each variable in the questionnaire, the frequency for each selection was calculated. A semi-structured interviewing guideline was used for the in-depth interviews with teachers. For the in-depth interviews, content analyses of the responses were done.

Results

A majority of the students figured out "groups of students sharing one microscopes" and "difficulty to identify specific structures on slides" as their most encountered difficulty with microscopes and glass slides respectively. The interviewee teachers felt that use of microscopes and glass slides has got some advantages as well as some disadvantages. Most of them believed that getting idea with real tissue slide and viewing of real thing create a positive psychological impact on student's mind. Some opined that learning of microscopic skill would be helpful for student's future field of work .Regarding disadvantages a group of teachers opined that with this aid student faced difficulty in proper understanding of the Histological structures; they could not find similarity between the features present in glass slides and illustrations of books and atlas. Some expressed that they faced difficulty during supervision and getting feedback from the students.

Conclusion

The cumbersome process and limitations associated with the viewing of traditional microscopes and the problems of archiving, movement, and replacement of glass slides have become a challenge in the teaching-learning of Histology practical. It can be assumed from this study that Histology practical teaching-learning should move toward a blending of traditional microscope and glass slides with newer innovative techniques. We ought to remember that before the implementation of a new way of teaching the traditional teachings method should be investigated to see whether there are shortcomings and also to see if any of the traditional way are effective and should therefore be retained.

MANDALA MAKING FOR ASSESSING MEDICAL STUDENT WELL-BEING

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Aims

A growing trend in medical schools is the introduction of the medical humanities into a biomedically oriented medical curriculum. This aims to enhance awareness of psycho-social aspects of disease and also self-awareness for self-care and patient care. This study intended to discover how creating mandalas (art made in reference to a circle) might provide medical students with an opportunity for reflection on their current psychological state. We specifically sought to identify common mandala patterns and associated archetypal themes, which may reveal the concerns and well-being of the students. This information could have direct implications for training in the medical humanities and in initiatives to monitor and address student well-being.

Methods

As part of the Year 3 Family Medicine rotations in 2012-2014, medical students participated in an art-making workshop during which they created mandalas based on their current emotional state followed by discussion and reflective writing. The responses were analyzed and coded by assessing the compositional pattern and symbols of the artwork, according to the mandala classification framework "Archetypal Stages of The Great Round of Mandala," and the themes from the writings.

Results

The response rate was 74.7% (n=180/241). It appeared that students struggled with integrating conflicting perspectives as they attempted to reconcile their professional identity as doctors-to-be. They also expressed psycho-social concerns included navigating difficult emotions, requiring nurturance, handling endings, contemplating existential concerns and managing stress.

Conclusion

Mandala making as a reflective activity provides insight into evolving professional identity and the psychological state of students which may help medical educators as they nurture the development and well-being of our future doctors.

ADAPTATION OF FLIPPED CLASSROOM TO FACULTY INDUCTION PROGRAM: CONDUCTING A MINICEX

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Aims

Formative assessment is an important component in residency training.Our faculty training in miniCEX followed the traditional model of lecture followed by using current residents interacting with standard patients. The participants will grade and then give feedback to the resident. A faculty trainer will then give feedback to the participants. While this been useful, we were keen to explore other faculty training models. After a series of discussions, we voted to adopt a flipped classroom, team based learning model.

We describe our experience with the development of a team based learning model in training our faculty in using the mini-CEX.

Methods

Participants were set pre reading materials on mini-CEX 2 weeks before the course. The class was divided in to groups of between 5-6. At the start of the course, each participant was asked to do a readiness assessment test. These series of MCQs were application questions designed around common situations the faculty would face. After the self-assessment, the participants were asked to discuss their answers within the groups. The facilitator then went through the questions with the class using simultaneous reporting.

Following this, the next segment of the training involved standard patients. A current resident was chosen to interact with standard patient as in a real miniCEX situation. All the participants were then asked to observe the interaction, grade the performance of the resident and prepare to give a feedback. One of the group participants was randomly picked to provide feedback to the resident while the rest of group observed the feedback.

Following the feedback to the resident, the resident was then invited to leave the room. We also sought feedback from the resident as to the performance of the faculty in training.

The rest of the groups were then asked to give feedback on how the feedback by the faculty in training was done. All these were facilitated by a faculty trainer.

Results

The results were most encouraging. There were 23 participants for this training. 87% of the participants felt they were able to achieve the objectives of the workshop. A large majority felt the content was relevant to their role as educators. 83% felt this was a good way to learn the content but a smaller number (74%) felt they were able to use what they learned in the workshop. They felt that workshop stimulated their learning (70%) and gave them sufficient practice and feedback to fulfill their role (74%).

The participants felt that they benefitted from the interactions and discussions with their peers especially those from other specialties.

Conclusion

The feedback from this pilot session was most positive. From the pedagogy point, the session was an application of several principles- self-directed learning at own pace and peer learning with application to relevant situations. We aim to continue to refine the program.

"JUST TELL ME WHAT I NEED TO KNOW TO PASS THE EXAM!" CAN FLIPPED LECTURES OVERCOME PASSIVITY?

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Aims

Although the flipped classroom approach encourages knowledge-construction and higher level learning, leading students to become effective, self-directed learners; little research has focused on flipping the classroom in a large enrolment medical context. We explored students' perceptions of the flipped classroom approach in whole class pathology teaching to determine if flipped lectures work in a fact intensive course or whether is it better to deliver packaged information for students to process later.

Methods

This research gauges senior medical students' perceptions of a partially flipped pathology course using both quantitative and qualitative measures.

Results

Student evaluations showed only 35.9% perceived the usefulness of a flipped approach in a large class setting. They perceived the completion of the flipped activities in advance, (which included reading, video watching, quizzes, slide labelling and written questions) as too time-consuming, and thought the flipped activities did not deliver any new facts. Specifically, most students regarded e-learning activities based on the knowledge-construction process as time-consuming, because they "have to synthesise together & work out what I actually need to know", and they prefer "well outlined points that I need to know (to pass the exam)". Rather than spending time constructing their own knowledge, students preferred the most important information in the course to be clearly identified and delivered to them.

Conclusion

Our results indicated that incorporating higher level (Bloom) learning through e-learning and flipped classroom in lecture settings, caused dissonance between expectations and the method of teaching. While educators created learning opportunities for students' knowledge construction and clinical integration, students valued transmission of "exam-related facts" only. This is in contrast to our prior experience where a flipped setting comprising pathology e-learning followed by small group tutorials was perceived as highly effective. For students to make effective use of a flipped classroom model with lectures, expectations need to be adjusted and higher value placed on knowledge construction over exam facts. Instead of only focusing on the course content that will be tested in the exam, if students can recognize the thought-provoking e-learning activities as professionally relevant, they are more likely to be motivated to work on them because they realise that the knowledge and skills they gain by completing these online-learning activities will be useful in their future career. Therefore, reconciling learners' expectations with the purpose of lessons might greatly improve students' perceived effectiveness of e-learning.

FREE COMMUNICATION 7 – CURRICULUM

Survey on Clinical Skills Phase Training Scheme of Chinese Innovative 8-Years Medical Doctor Degree Course
Li Wei, China

Accreditation of Medical Education: Perspectives of Stakeholders
Marivic Amigable-Villamor, Philippines

Adapting Western Communication Models to the Asian Context – Lessons for Transfer of Curricula across Continents
John Ciaputa, United Kingdom

Moral Competence Development of Medical Students: A Cross-Sectional Study in Two Countries
Sunčana Kukolja Taradi, Croatia

How to Review a Medical Curriculum
Richard Hays, Australia

What is the Role of Curriculum Committee on Simulation Program Development?
SH Leung, Hong Kong S.A.R.

A Practical Medical Curriculum for Under Resourced Situations: Experience of Nile College, Sudan
Zainalabdin Abdelrahim Karrar, Sudan

SURVEY ON CLINICAL SKILLS PHASE TRAINING SCHEME OF CHINESE INNOVATIVE 8- YEARS MEDICAL DOCTOR DEGREE COURSE

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Aims

Chinese 8-years medical doctor degree course is a pilot reform program of Chinese innovative medical talents training scheme which reduces the training period of traditional medical doctor degree course (5+3+3) from 11 years to 8 years. There are only 15 top excellent medical universities were authorized by Chinese Education Ministry to recruit 8-years medical doctor degree course students in China. The students in this course start to learn clinical curriculums which synchronize with clinical observation activity in their fourth year, then move to the stage of internship in their fifth year, the students enter the secondary disciplines specialized training from their sixth year. The competence of clinical skills and the ability to solve clinical practical problems is one of the important criteria to measure whether the medical students meet the training objectives. In order to improve the clinical skills training curriculum design for the 8-years course, the aim of present study is to investigate the actual individual requirements in clinical skills training of the students in different stages.

Methods

We have investigated and followed-up 177 medical students in 8-year course belonging to grade 4 to grade 6 on psychological diathesis, humanism, clinical theoretical basis, attitudes toward the theory learning, forms of clinical skills competence training and assessment.

Results

We found the experience of clinical observation and practice have improved the medical students' clinical psychological diathesis, enhanced the awareness of humanism and patient caring. While from clinical observation stage to clinical internship, the medical students have gradually less satisfied with their own theoretical basis and increased expectation in competence of clinical mentors. In terms of clinical skills training forms, most medical students preferred the combination of simulation and bed-side training. Mentor demonstration was no longer required by those students who had internship experience, self- practice under supervision were mostly preferred. The favorite form of the assessment has shifted from written exam to oral exam.

Conclusion

From the results of this investigation and follow-up, we have understood the individual clinical skills learning characteristics and the transformation process of the 8-year program medical students in 3 different stages including clinical observation stage, internship stage and secondary disciplines specialized training stage. This information provides important guidelines for 8-year program clinical skills teaching scheme optimization. Improvements on clinical skills curriculum settings and teaching competence of teachers, actively exploring new clinical skills teaching models, building a fully functional clinical skills training platform, conducting various forms of clinical skills training approach base on students' actual needs should be carried out to improve the 8-year program medical students clinical competence training.

ACCREDITATION OF MEDICAL EDUCATION: PERSPECTIVES OF STAKEHOLDERS

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Aims

This study was conducted to describe the perspectives of stakeholders on the contribution of the accreditation process on the implementation of the medical curriculum.

Methods

Survey questionnaires were administered to 140 faculty staff, 100 students and 70 graduates. Review of survey reports submitted to the accrediting body was likewise conducted. The participants were selected based on their length of affiliation with the institution. Faculty with less than 5 years teaching experience was excluded. The students who experienced accreditation process longest were asked to respond to the survey. As such, sample form the Fourth Year and graduates was invited to participate.

The questionnaires were developed based on the self-survey instrument administered by the Philippine Accrediting Association of Schools, Colleges and Universities. Five areas that can be directly observed by the stakeholders were included in the questionnaire.

The data from the survey were tabulated and analyzed along side the content analysis of the qualitative components of the survey reports that covered the period from 2001 to 2013.

Results

One hundred (71.43%) faculty responded to the survey while 62 (68.89%) Fourth year students and 62 (88.57%) graduates agreed to respond to the survey questionnaire.

Three areas, Faculty, Curriculum and Instruction and Students were similarly rated very good by most faculty and student respondents. A variation in rating was evident in areas on library resources, learning environment and research. In contrast to an average rating by the faculty, the students assessed these areas as above average. Content analysis of the reports submitted to the accrediting body showed similar results gathered from the survey questionnaire. Analysis indicated that during the accreditation process from 2001 to 2013, two areas Faculty and Curriculum and Instruction received high evaluation marks, reflective of the perceptions of the respondents surveyed. Worth noting is the emphasis on the quality, competence and commitment of the faculty. The influence of accreditation on student achievement was indicated by the performance of the graduates in the licensure examination. Except for the 2004 performance, the graduates have consistently performed better compared to their peers from other medical schools as indicated by a pattern of higher board performance compared to the national passing level.

Conclusion

One of the goals of accreditation is self-evaluation of the quality of the implementation of a program. The feedback of the stakeholders provides valuable information to monitor and improve on the implementation of the curriculum. Faculty, students and graduates possess indispensable perceptions of accreditation as they are the immediate beneficiaries of changes spurred by the process. The respondents, regardless of their role in the academe, have revealed strong awareness of the benefits of accreditation on the key indicators as faculty, students and curriculum and instruction. Resource-driven areas like research, library and learning environment and faculty benefits were deemed short of the expected excellent standard.

Accreditation being voluntary is not prescriptive allowing the institution to determine the standards against which the program's value is measured. Accreditation can serve as a mechanism to ensure quality in medical education in the context of each institution's capabilities.

ADAPTING WESTERN COMMUNICATION MODELS TO THE ASIAN CONTEXT - LESSONS FOR TRANSFER OF CURRICULA ACROSS CONTINENTS

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Aims

In the last 30 years the doctor-patient relationship in Europe and North America has mirrored the rising consumerist trend in society, moving from a paternalistic approach to consumerist or partnership approaches.

These changes in practice are reflected in the curricula of medical schools in the West and enshrined in the guidance of regulatory bodies such as the General Medical Council's Tomorrows Doctors. Increasing numbers of Western medical schools are opening campuses in Asia. They need to consider the appropriateness of the prevailing Western model of doctor-patient relationships and decision-making in the host country. The objective of this narrative review is to understand whether and how the communication and decision-making aspects of Western curricula may need to be adapted when transferred to Asia.

Methods

We conducted a literature search for studies in English in the Cinahl, Embase and Medline databases using, in various configurations, the terms 'Consultation', 'Cultural factor/characteristic', 'doctor-patient relationship', 'professional-patient relations' 'truth telling', 'communication' and 'Asia' and 'South-east Asia'. We found 115 relevant studies and obtained the full manuscripts and searched the references to identify further relevant studies.

We searched the manuscripts for themes relating to the central objectives, namely communication skills and doctor-patient relationships between the 'West' and Asia. We sought to synthesise the findings of the studies and explore the relationships between their findings.

Results

Evidence in the studies came from doctor's self-reported behaviours, doctor's opinions and patient's opinions.

We found three main themes:

- Disclosure of diagnosis or prognosis and factors that influenced this
- The involvement of the family in decision making
- The influence of Confucianism on models of doctor-family-patient relations in East Asia.

Doctor's reported that full disclosure of serious diagnosis such as cancer was not practiced in between 20% and 50% of cases with little change over time. They reported that it was normal practice to inform the family but not the patient, especially when the patient was female, older or less well educated. The role of Confucianism in shaping the doctor-family-patient relationship was highlighted by some authors. Other authors interpreted the behaviours through a sociological perspective, for example highlighting distance-power relationships in society. Studies of patient opinion showed that 90% of patients desired full but sensitive disclosure for themselves, although they did not always agree with this for others.

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Conclusion

The challenge for the exported curricula is to address the cultural differences between the Western medical curriculum and the real world context of Southeast Asia in which it will be practiced. By finding ways of helping students learn about and understand the specifics of the prevailing doctor-family-patient model and its implications, medical curricula can hope to enable graduates to overcome paternalism and meet the patient's needs, whilst addressing and remaining sensitive to the broader cultural context.

Finally, breakdown of communication between doctors and family was highlighted by the Francis report as a factor contributing to poor medical care in the UK. Some elements of the adapted curricula might be reverse engineered into the UK curricula.

MORAL COMPETENCE DEVELOPMENT OF MEDICAL STUDENTS: A CROSS-SECTIONAL STUDY IN TWO COUNTRIES

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Aims

Medicine is a moral profession and moral development of medical students should be the central focus of medical education. However, in the last two decades a considerable number of studies from different countries and continents revealed that numerous medical students showed little progress in their development of moral competence. It looks like medical education hinders students' development of moral competence. This poses a major challenge to medical education.

The main aim of our study was to assess the development of moral competence and attitudes among medical students in two countries, to find out the relation of these parameters to a number of demographic factors (students' study year, gender, grade point average, place of study, parents' educational attainment, religious background, and participation in ethics or catechism courses during high school education), and to suggest ways of improving medical education.

Methods

In a cross sectional study, we used the validated and certificated Croatian translation of Lind's Moral Competence Test (MCT). Validation studies of 27 language versions and 35 years of use in research have indicated that the MCT is valid and useful for assessing affective and cognitive aspects of moral behavior. It is an objective test of moral competence which confronts participants with two dilemmas-stories and 12 arguments for each story. Participants are challenged to evaluate arguments supporting and opposing their opinion on a dilemma decision in regard to their moral quality rather than in regard to their opinion agreement. The calculated moral competence score (C-score) reflects the degree to which the individual pattern of ratings shows a regard for the moral quality of the argument rather than for the opinion agreement of the statements.

Results

The MCT results of all participants (n = 1136) revealed that the medical students' level of moral competence, regardless of the country or institution, showed no progress across study years. The C-score correlated positively with students grade point average ($r = 0.07$; $p < 0.05$), higher education of their parents ($r = 0.07$; $p < 0.05$), agnosticism ($r = 0.09$; $p < 0.01$), and ethics education ($r = 0.09$; $p < 0.01$). Other demographic variables did not affect the C-score.

Conclusion

The failure of medical education to raise students' moral competencies calls for deep reflection by medical teachers and university administrators to reevaluate the curriculum and implement changes. We have the responsibility to contribute in any way we can to the moral development of our students by finding innovative ways of fostering students' moral and democratic competencies.

HOW TO REVIEW A MEDICAL CURRICULUM

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Aims

Many medical programs are subject to periodic external review by relevant Medical Councils and most others from time to time conduct their own, within-institution program reviews. Curriculum reform is commonly discussed, as programs consider different school leaver vs graduate entry points, duration and level of degrees, the degree of integration of curriculum content, and how to transition students to postgraduate training pathways. This paper provides some handy tips for how to review a curriculum to maintain best international practice and ensure that learning outcomes are optimised.

Methods

The paper draws on the experience of the author, who has a record of both curriculum design and curriculum reviews of medical programs in the Asia -Pacific, European and North American regions. The perspectives are linked to the literature and education theory, and developed into a curriculum review framework.

Results

Key issues to consider in any curriculum review include: presence of measurable outcomes, ideally linked to local Medical Council expectations of graduates; content that can be described (subject, domains or themes) with sustainable cognitive load; clarity about the level of integration (horizontal and vertical); alignment of delivery methods with the design; access to educational resources; alignment with assessment (content and process); a starting point that is appropriate for the level of entering students; and evaluation mechanisms that constantly adapt the learning experience to changes in both education and health care delivery. Guidance is provided on where and how to look for evidence to develop an informed view on how well a curriculum addresses these issues.

Conclusion

Curriculum review is made simpler through consideration of educational principles that are well grounded in both theory and evidence. This paper provides a framework for conducting an evidence-based review of a medical curriculum for both curriculum revision and quality assurance purposes.

WHAT IS THE ROLE OF CURRICULUM COMITTEE ON SIMULATION PROGRAM DEVELOPMENT?

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Aims

Background

Multi-Disciplinary Simulation and Skills Centre (MDSSC) was established in 2011 to facilitate continuous improvement and achieving excellence in healthcare through simulation-based learning. Since 2013, a Curriculum Committee (CC) has been established for quality improvement of simulation program. CC members are qualified simulation instructors that experienced in producing, conducting, and teaching simulation training.

Objectives

The primary function of the CC is to make major decisions in the best interests of the simulation training programs and ensure that the programs align with MDSSC's mission statement. Members will review, evaluate, update and recommend submitted simulation training programs about curricular matters for keeping up with current standard in Hong Kong healthcare.

Methods

Every proposed program was reviewed a group of CC members in accordance to their expertise. CC members facilitated program director to adopt ADDIE model (Diagram 1) during program build up process. First, program director of the proposed simulation program filled in a curriculum proposing form and submitted it to the CC. The CC then reviewed training needs, objectives, contents, simulation design and methods, evaluation plan of the submitted proposal of the program. Committee members made comments and recommendations on the submitted training proposal, including the simulation media and fidelity. Program director after receiving the CC's feedback would revise their program accordingly and re-submitted his proposal for further rectification by the CC. After consolidating the program curriculum and design, CC would help the program director to conduct a trial test before real implementation. The CC also collected evaluations from the learners and instructors of the program and delivered a post-training report to the program director for future program improvement (Diagram 2).

Diagram 1
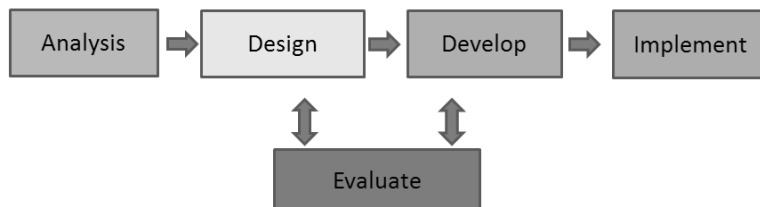
Diagram 2
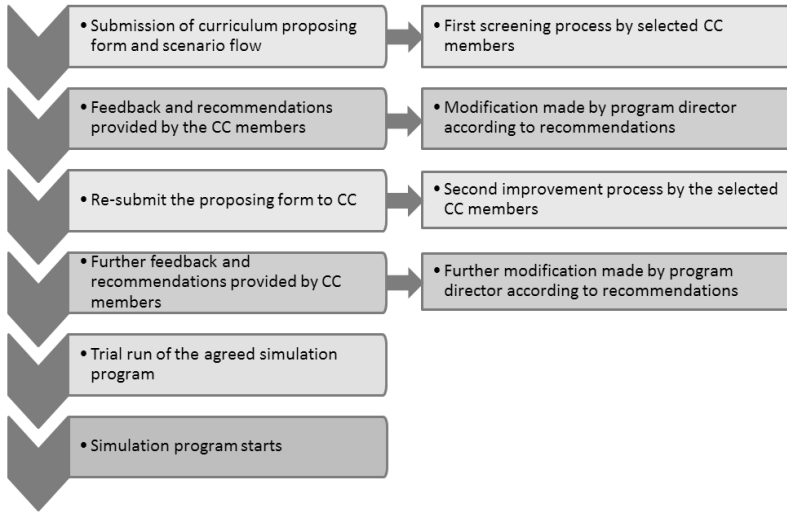
Results

Figure 1.

Comment on the simulation program	Strongly agree	Agree	Neutral	Disagree	Strongly disagree
This program has achieved its stated objective(s).	77 (25.4%)	209 (69.0%)	13 (4.3%)	3 (1.0%)	0 (0.0%)
The program meets my training needs.	77 (25.4%)	206 (68.0%)	18 (5.9%)	2 (0.7%)	0 (0.0%)
The program is organized.	77 (25.4%)	202 (66.7%)	22 (7.3%)	2 (0.7%)	0 (0.0%)
Scenarios are able to facilitate participation and learning.	86 (28.4%)	198 (65.3%)	14 (4.6%)	4 (1.3%)	0 (0.0%)
I am overall satisfied with this training program.	74 (24.4%)	212 (70.0%)	14 (4.6%)	4 (1.3%)	0 (0.0%)

303 learners underwent 10 simulation based training programs in 2014. Most of the learners was satisfied with the quality of the simulation programs .286 (94.4%) of the learners agreed that the programs achieved the stated objectives. 283 (93.4%) of the learners commented the programs met their training needs. 279 (92.1%) commented the programs were well organized. 284 (93.7%) expressed the scenario design and set-up were able to facilitate participation and learning. 286 (94.4%) of the learners were satisfied with the simulation training program

Conclusion

Curriculum Committee has a positive effect on quality assurance of the simulation program by providing a structural framework on program set-up.

A PRACTICAL MEDICAL CURRICULUM FOR UNDER RESOURCED SITUATIONS: EXPERIENCE OF NILE COLLEGE, SUDAN

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Aims

The presentation will communicate the experience of designing and implementation of an outcome based medical curriculum taking into consideration the contextual issues and challenges of limited educational resources and training within limited resource health system institutions.

Methods

A group of experienced teachers in medical schools, who were also well versed in the theory behind curriculum design, arranged to design a three phase curriculum. They considered the feasibility of implementation and the entry level of students' determinant of the introductory phase as the main factors outcome-based in this situation. A three phase 12 semester curriculum was designed in step by step fashion in a series of working groups and several workshops. The curriculum was based on basic principles of relevance to community needs, sound educational principles, training within the health system facilities including the primary care level and community, robust students' assessment and linkage to stated outcomes.

Training included inpatient teaching, training in referral clinics at second level hospitals.

Results

Phase one:

This phase consisted of two semesters where the basic natural sciences were studied in both practical and theoretical sessions. Reasonable time was allocated for social sciences, including an introduction to sociology and psychology. A course on the cultural & environmental background of the country & the region was included. English language for scientific studies was also needed by a substantial number of students.

Phase two:

A course on communication skills was introduced early in this phase. The basic medical sciences were offered as fully integrated organ systems in five semesters. The courses were 80% basic medical sciences & 20% case studies of relevant pathophysiology, pharmacology & community medicine. Semester six was concerned mainly with an introduction to the sciences of epidemiology, general pathology as well as behavioral sciences.

Phase three:

The first 2 semesters of this phase were consolidation courses for pathology microbiology & pharmacology and community medicine. At the same time basic clinical skills were introduced in role play, skills lab & real patient encounters in primary health care. The departments of medicine & surgery playing a major role during this time. This phase also included a course on medical ethics & professionalism as the culmination of the spiral started in phase one of the curriculum it includes application of patient safety practices, respecting patient's rights, practicing good communication

techniques in patient encounters at different situations and demonstrating good medical practice and reflecting on the ethical dimensions of practice. The remaining 4 semesters were dedicated to clinical studies & a community based research project. Hands on training under supervision in clinical rounds and various clerkship activities is emphasized and closely monitored.

Conclusion

The curriculum required rigorous management & follow up. Since its inception & implementation only minor modification had to be made for logistic considerations. Students' assessment in the discipline-based courses had to be reconsidered to avoid fragmentation.

The program has graduated two batches of students and one is the pipeline. Feedback from experienced external examiners was highly appreciative of the standard of students the efforts of the staff.

FREE COMMUNICATION 8 – GENERAL EDUCATION 2

Utility of SBAR as an Interprofessional Communication Tool: Perception of Clinical and Administrative Healthcare Professionals
Lee Sin Yi, Singapore

Delivering on Social Accountability: Canada's Northern Ontario School of Medicine
Roger Strasser, Canada

Medical Interns of the Royal Thai Air Force and their Perspective Towards Future Medical Career: Staying or Leaving?
Patawee Na Bangxang, Thailand

The Complex Relationship between Case Complexity and Shared Decision-Making in Non-Acute Interprofessional Teams
Ong Yu Han, Singapore

Factors that Affect Students' Overall Ratings of Medical School Courses
Su Jin Chae, South Korea

The Academic Progress Portal: Catching Students Before They Fail
Scott Helf, United States of America

How Good is Good Enough?
Nicola Ngiam, Singapore

UTILITY OF SBAR AS AN INTERPROFESIONAL COMMUNICATION TOOL: PERCEPTION OF CLINICAL AND ADMINISTRATIVE HEALTHCARE PROFESSIONALS

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Aims

The Situation-Background-Assessment-Recommendation (SBAR) tool provides a structured communication framework to promote patient safety for highly urgent patient care situations, where timely relaying of accurate information is critical. This provided the impetus for our choice of SBAR as the anchor communication tool in our 5-day interprofessional leadership programme (IPLP) for junior healthcare leaders. However, its application in non-urgent clinical and non-clinical team-based settings is less well studied. The aim of this study is to examine the utility of SBAR as an interprofessional communication tool that can be applied across clinical and non-clinical settings.

Methods

Thirty-two participants, comprising 22 (69%) clinicians (medical, nursing and allied health) and 10 (31%) administrative professionals, underwent an SBAR interactive scenario-based workshop during IPLP, followed by the workplace-based application of SBAR. The workshop comprises group discussions and role-plays involving urgent, non-urgent clinical and non-clinical scenarios. After completion of IPLP, a 5-point Likert survey was administered to all participants. Participants also submitted individual and group reflective portfolios of their experience applying SBAR at work. We used descriptive statistics to summarize group data and independent-sample t-tests to compare between clinical and administrative professionals. Iterative text analysis was employed to analyse qualitative data collected from the portfolios.

Results

Overall, the participants endorsed SBAR as an easy-to-use communication tool [Mean (SD)= 4.0 (0.5)] that can be applied in their workplace [Mean(SD)= 3.8 (0.8)]. In addition, they expressed that SBAR helps to communicate information in a clear and succinct manner [Mean (SD)= 3.9(0.6)], and organize information in complex situations [Mean(SD)= 3.8(0.50)].There was no difference in perception of effectiveness of SBAR in urgent, non-urgent clinical and non-clinical settings for both groups. [Mean (SD): 3.8(0.6) vs 3.7 (0.7) vs 3.6 (0.7), p>0.1]. Although clinical professionals used SBAR more frequently prior to the programme as compared to administrative (non-clinical) professionals [Mean(SD)= 3.56(1.04) vs 2.56(0.88); t(18.8) =2.61, p=0.02, d=0.41] , the latter group gained more insights about SBAR from the programme as compared to the earlier [Mean(SD)= 4.11(0.60) vs 3.33(0.84); t(21.6) =-2.76, p=0.01, d=0.41], alluding to the potential benefits of learning SBAR among non-clinical administrative staff.

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Qualitative findings from the reflective journals corroborated that of the survey. Participants perceived that SBAR is an effective communication tool in both verbal and written forms for clinical and non-clinical use. It helps create a common language to bring the message across in a systematic manner among different stakeholders during the provision of patient care. It is particularly useful in making the communication concise and clear in an interprofessional team.

Conclusion

This study highlights the innovative use of SBAR as an effective interprofessional communication tool in the workplace beyond urgent clinical care settings. Non-clinical staff, in particular, benefited from the provision of a common systematic framework as afforded by SBAR to enhance interprofessional communication. Our results pave the way for future studies to explicate how SBAR can be adapted to optimise interprofessional communication in non-clinical situations.

DELIVERING ON SOCIAL ACCOUNTABILITY: CANADA'S NORTHERN ONTARIO SCHOOL OF MEDICINE

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Aims

Northern Ontario in Canada is geographically vast with a volatile resource based economy and different social characteristics from the southern part of the province. Forty percent of the population lives in remote rural areas where there are diverse communities and cultural groups, most notably Aboriginal and Francophone peoples. The health status of people in Northern Ontario is worse than the province as a whole, and there is a chronic shortage of doctors and other health professionals. Recognizing that medical graduates who have grown up in a rural area are more likely to practice in rural settings, the Government of Ontario decided in 2001 to establish the Northern Ontario School of Medicine (NOSM) with a social accountability mandate to contribute to improving the health of the people and communities of Northern Ontario. This paper reports on outcomes in relation to NOSM's social accountability mandate.

Methods

NOSM and the Centre for Rural and Northern Health Research (CRaNHR) used mixed methods that include administrative data from NOSM and external sources, as well as surveys and interviews of students, graduates and other informants.

Results

Consistent with its social accountability mandate, NOSM seeks to reflect the population distribution of Northern Ontario in each class. Between 2005 and 2013, NOSM received 18,000 applications for 538 places. The selection and admissions process resulted in 92% of all medical students coming from Northern Ontario with the remaining 8% from remote rural parts of the rest of Canada, plus substantial inclusion of Aboriginal (7%) and Francophone (22%) students. Since 2009, there have been seven graduating classes of whom 62% have chosen family medicine (predominantly rural) training. Almost all the other MD graduates (33%) are training in general specialties such as general internal medicine, general surgery and pediatrics, with a small number (5%) training in sub-specialties like dermatology, plastic surgery and radiation oncology. NOSM offers residency training in family medicine and in eight other major general specialties. Ninety-four percent of doctors who completed undergraduate and postgraduate education with NOSM are practising in Northern Ontario. The socio-economic impact of NOSM includes: new economic activity, more than double the School's budget; enhanced retention and recruitment for the universities and hospitals/health services; and a sense of empowerment amongst community participants which they attribute to NOSM.

Conclusion

Uniquely developed through a community consultative process, the holistic cohesive curriculum for the MD program is grounded in Northern Ontario health context, organized around 5 themes and relies heavily on electronic communications and community partnerships to support Distributed Community Engaged Learning (DCEL). In the classroom and in clinical settings, students explore cases from the perspective of doctors in Northern Ontario. Interprofessional education and integrated clinical learning take place in over 90 communities and many different health service settings. There are signs that NOSM is successful in graduating doctors who have the skills and the commitment to practice in Northern Ontario or other rural underserved areas; and that the rural distributed community engaged school is having a largely positive and pervasive socio-economic impact on Northern Ontario.

MEDICAL INTERNS OF THE ROYAL THAI AIR FORCE AND THEIR PERSPECTIVE TOWARDS FUTURE MEDICAL CAREER: STAYING OR LEAVING?

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Medical Services of the Royal Thai Airforce, Chandrubeksa Hospital, Thailand

Aims

Directorate of Medical Services of RTAF (Medical RTAF) accepts 18 newly graduated doctors each year to its internship program and later provides job as Air Force physicians. Approximately 5-20% of interns quitted after a year pass. Loosing doctors from the service can adversely affect works of Medical RTAF, so we carried out this qualitative research to find key factors affecting interns' career choices.

Methods

Our subjects were 16 in-service Medical RTAF interns (excluding 2 researchers). We conducted semi-structured, individual, peer interview and later performed Interpretative Phenomenological Analysis (IPA) to conclude themes of the result.

Results

The result could be divided into 2 groups: staying and leaving Medical RTAF. Nearly all the participants chose to stay (93.75%). The principal rationale was a desire of getting residency training position Medical RTAF offered. Fear of career uncertainty after leaving Medical RTAF was the second basis. Other reasons were good welfare as an Air Force physician, hospital location and military family background. For those who decided to leave (6.25%), military discipline and 'hierarchy' system were the main factors. Next reason was failure to achieve training in specialty they expected. Frequent moving and low income were also mentioned.

Conclusion

Residency training proposal and job stability seem to be important reasons for interns to continue working as Air Force physicians. It is the duty of Medical RTAF to balance its resources and interns' expectation to make a better fortune for the organization. Medical RTAF and interns should adjust their discrepancies to decrease rate of quitting the job and to make the organization grow steadily and strong.

THE COMPLEX RELATIONSHIP BETWEEN CASE COMPLEXITY AND SHARED DECISION-MAKING IN NON-ACUTE INTERPROFESSIONAL TEAMS

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Aims

With the increasing emphasis on team-based care, interprofessional collaborative practice is increasingly salient in patient care. Literature suggests that the involvement of interprofessional team members in the process of decision-making for patient care is positively related to case complexity in acute care and resuscitation settings. However, there is limited understanding of how case complexity affects shared decision-making in interprofessional teams in the non-acute setting. In our study, we aim to understand shared decision-making for straightforward and complicated cases during interprofessional team meetings (IPTMs) in the Departments of Geriatric Medicine and Palliative Care.

Methods

We studied 115 members from Geriatric Medicine and 19 members from Palliative Care. The members comprised doctors, nurses and allied health professionals. For Geriatric Medicine, the IPTM serves primarily to discuss and co-ordinate the discharge plan for frail elderly patients with interacting medical, functional and social issues, whereas for Palliative Medicine, it provides to the platform to integrate the holistic management plan for patients diagnosed with terminal illnesses. We surveyed demographic variables and involvement of interprofessional team members in decision-making process for straightforward and complicated cases. We conducted a directed qualitative content analysis of written text to evaluate themes based upon our previously validated clinical shared leadership framework (Ong et al., 2015) comprising three key dimensions of social cohesion, joint involvement, and decentralized interprofessional interaction.

Results

Overall, most IPTM members from both Geriatric Medicine (n=99; 86.1%) and Palliative Care (n=18; 94.7%) endorsed alignment of the shared leadership framework with decision-making for both straightforward and complicated cases. This congruence independent of case complexity is mainly due to the preponderant themes of social cohesion and joint involvement in both departments. For Palliative Care members, the collective social identity forms the basis for shared decision-making, whereas the individual professional identify is more prominent when negotiating shared decision-making during the Geriatric Medicine IPTM. Among members in the Geriatrics team with incongruent views, nine members (7.8%) perceived that they were not involved in decision-making for straightforward cases and six (5.2%) for complicated cases. The former group, comprising mainly nurses, perceived the lack of joint involvement and decentralized interprofessional interaction in straightforward cases. Conversely, the latter group, comprising mainly allied health professionals, noted decreased decentralized interprofessional interaction in complicated cases.

continue from previous page

Conclusion

Unlike earlier findings in literature of acute resuscitation settings, we found that the majority of members in two non-acute interprofessional teams hold a congruent view for shared decision-making that is independent of case complexity. A small number of interprofessional team members have contrasting views for straightforward and complicated cases that is influenced by the professional group. The shared leadership framework offers insights into the dynamics that underpin congruent and incongruent cases, as well as the balance between the collective team versus individual professional identify in shared decision-making. The incongruent view among professional groups for the complex relationship between case complexity and shared decision making needs to be explored further.

REFERENCE:
Ong et al.(2015, February).Validation of the Clinical Shared Leadership Scale for interprofessional team meetings in geriatrics care. Poster presented at the APMEC & ICFDHP, Singapore.

FACTORS THAT AFFECT STUDENTS' OVERALL RATINGS OF MEDICAL SCHOOL COURSES

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Aims

Since 2000, all medical universities in South Korea have conducted course evaluations that aim to improve the quality of teaching. Most schools ask students to rate the quality of their learning experience and then use this feedback in efforts to improve future ratings. However, little is known about which factors of a curriculum influence students' overall ratings and how students decide to rate their courses. This study sought to examine what factors affected students' overall course ratings.

Methods

This study analyzed the student ratings of 17 courses at Ajou University School of Medicine in 2013. All of the first- and second-year students completed course evaluations after the summative assessments of each course. We divided the courses into basic science and integrated science by year. The course surveys contained 8 common items (learning difficulty, learning amount, objectives, materials, relevance, student assessment, teacher readiness, and overall rating). Each item was presented as a 5-point Likert-type scale from 1 (strongly disagree) to 5 (strongly agree). SPSS version 12.0 was used to analyze the data and statistics using the t-test and multiple linear regression.

Results

The results of this study are as follows: 1) There was a statistically significant difference between year of study and the course ratings ($p<.05$). For second-year students, the course ratings based on learning difficulty, amount, student assessment, and teacher readiness were higher than the ratings among the first-year students. 2) The result of the multiple regression analysis showed that the important first-year factors were student assessment (ß=0.452) and learning difficulty (ß=0.267), and the second-year factors were learning amount (ß=0.282) and teacher readiness (ß=0.218).

Conclusion

In our study, we found significant interactions between year of study and curriculum factors. For first-year students, student assessment was by far the strongest predictor of overall course rating, whereas for the second-year students, learning amount influenced overall course ratings. These results differ from previous studies that found that student assessment had the strongest association with course evaluations for second-year students and was expected to be an important resource for evaluating new curriculum.

THE ACADEMIC PROGRESS PORTAL: CATCHING STUDENTS BEFORE THEY FAIL

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[1]_Academic Informatics, and_ [2]_Academic Affairs, College of Osteopathic Medicine of The Pacific, Western University of Health Sciences, United States of America_

Aims

We will introduce, demonstrate, and encourage interaction regarding Western University's (WesternU) experience successfully developing the Academic Progress Portal (APP), a powerful, yet easy to use technology solution, now a mission critical system for seven of its own, and two additional independent professional colleges. Our system has essentially solved the frustrating and beguiling problem that academic advisors and senior administration often face when trying to track a given student's academic progress, both "big picture" and granular data, as they complete their doctoral studies in medicine. These issues are usually the result of data tied up in disparate, siloed, specialized systems and spreadsheets across various college and university departments, as well as national databases. Our highly interactive presentation will cover the university's use of the APP to effectively detect when a student is likely to fail, in time to intervene on their behalf, long before they fail a course, or the entire program.

Methods

The WesternU College of Osteopathic Medicine of the Pacific (COMP), Department of Academic Informatics (AI) has designed and built the APP as a web and permissions-based, FERPA compliant software. It automatically integrates dozens of on and off campus data systems to provide a real time, holistic, and complete view of student progress through the curriculum, including pre-admissions, pre-clinical, clinical, medical license testing, and post-graduate specialty training selection data. Its core design provides the means for the appropriate student advisors, deans, and faculty to prevent students from failing a course, and by extension, failing the degree program. Built on .NET technologies, the APP is continuously improved and sports a modern, easy-to-use user interface and experience.

Results

Through the APP advisors have easy, simplified, secure, comprehensive, and timely access to student academic progress via a 24/7 web connection and login. The system sends alerts when a given student trends down in their individual academic performance, empowering advisors to reach out to their students long before they fail a course. Deans, advisors, and faculty leave comments on a per student basis, not unlike a medical chart record, to facilitate communication, documentation, and appropriate action regarding student progress. Students, advisors, deans, and student performance committees use the APP as the primary data source for all demographic information, scores, academic history, disciplinary actions, notes, etc. Although originally built for use by the medical school faculty, advisors, and administration, its utility and success has grown steadily with the release to students, and eight additional professional colleges at the university, which also include Podiatry, Dentistry, Pharmacy, Graduate Biomedical Sciences, Optometry, and Veterinary Medicine, as well as two other independent medical colleges.

Conclusion

The APP has become the de facto, centralized, powerful, secure, user-friendly interface through which students, faculty, and administration access the vast majority of student academic performance and progress data. By evidence of its strong growth, constant improvements, and heavy daily use beyond the originating medical college, the Academic Progress Portal is becoming much more successful than originally envisioned.

HOW GOOD IS GOOD ENOUGH?

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Aims

Simulated patients (SP) mimic the condition of a real patient for the education of healthcare professionals. Giving an authentic portrayal as an SP can be challenging. A significant proportion of people who work as SPs around the world do not have theatre training. The potential benefit of training an SP in theatre skills include better performance as well as improved psychological safety.

Methods

20 SPs attended a 2-day workshop run in collaboration with faculty from the Department of Visual and Performing Arts (Drama). This introduced the SPs to the basics of psycho-physical acting techniques as well as its application to patient portrayal. A year later, another 2-day workshop was run to reinforce this. Six of the trained SPs responded to a study invitation and were trained using the psycho-physical acting techniques to portray a case of severe depression. Six control SPs that were matched for age and gender were recruited and trained separately using conventional methods to portray the same case.

A drama PhD student from NIE played the role of a standardized student in the interaction with both subjects and controls. The interaction was video recorded. She assessed the SP for authenticity and use of the techniques that were taught. Another drama PhD student from NIE watched the videos post hoc and assessed the SPs similarly. An interview with the SP was conducted immediately after the portrayal. Questions asked focused on self-evaluation, use of acting techniques and adequacy of stepping out of character.

Data was analyzed using mixed methods. This study was approved by the institutional review board at NUS.

Results

The exposure to theatre training appeared to improve self-awareness and confidence as well as control during the performance. All the trained SPs appeared to apply the techniques taught during the training, although to varying degrees. Untrained SPs expressed maintaining detachment from the character that they were portraying in order to stay safe. The effect of training on stepping out of character was not different in the 2 groups.

From the standardized student's perspective, untrained SPs seemed to be more inconsistent in their portrayals and seemed to present themselves as a problem to be solved as opposed to a person needing help. Trained SPs were more facilitative and better at controlling the flow of the conversation, suggesting they were more observant and focused on the interaction. The 2 PhD students applied their own aesthetic/performance values and found that the intervention group demonstrated more situational realism, clarity of purpose, improvisational and performance control.

Objective evaluation by the 2 independent raters revealed that despite inter-rater variability, there was a statistically significant improvement in the performance of the intervention group compared to the control group ($p=0.025$).

Conclusion

Training in psycho-physical acting techniques improves self-awareness and SP performance. It equips SPs with tools to explore deeper expression of emotions in their portrayals. It may also improve their observation skills, resulting in more effective feedback to the student. The desired effect on psychological safety in stepping out of character still remains to be explored.

PANEL DISCUSSION 2 – ALIGNING ASSESSMENT TO THE NEEDS OF PROFESSIONAL PRACTICE

Experience of Phase III Medicine Programme, NUS
Derrick Aw, Singapore

Workplace Based Assessment for Undergraduates: What Do They Achieve?
Katharine Boursicot, Singapore

Workplace Based Assessment for International Medical Graduates in Australia
Liz Farmer, Australia

The Development of Advanced Practice Nurse OSCE as a Certification Requirement in Singapore
Karen Koh, Singapore

Saturday 16th January 2016, 11.45am
Hall, Level 1, University Cultural Centre

EXPERIENCE OF PHASE III MEDICINE PROGRAMME, NUS

Derrick Aw
Senior Consultant, Division of General Medicine (Dermatology), National University Hospital, National University Health System, Singapore

A revamped Medicine programme for Phase III medical students in the Yong Loo Lin School of Medicine, NUS, was introduced in 2010. Since then, the learning and assessment components of the programme have constantly evolved to keep pace with multi-source feedback as well as advanced pedagogies in medical education. This presentation will share on how each assessment component of the programme (the mini-CEX, the reflective journals, the case write-up, the supervisor evaluations and the end-of-posting test which adopts a modified team-based learning approach) contributes to meeting the needs of the outcome of an undergraduate education – to be an effective resident. The key challenges faced and the counter-strategies used in the process of managing these assessments will also be discussed.

Saturday 16th January 2016, 11.45am
Hall, Level 1, University Cultural Centre

WORKPLACE BASED ASSESSMENT FOR UNDERGRADUATES: WHAT DO THEY ACHIEVE?

Katharine Boursicot
Director, Health Professional Assessment Consultancy, Singapore

WBAs have permeated all healthcare professional education situations at the postgraduate level and there is evidence of their increasing use at undergraduate levels in medical schools.

In this talk, I will explore the uses and abuses of WBAs in medical schools, and their impact on learning, teaching and professionalism. I will also bring some insights into practical issues in the implementation of a system of WBAs.

Saturday 16th January 2016, 11.45am
Hall, Level 1, University Cultural Centre

WORKPLACE BASED ASSESSMENT FOR INTERNATIONAL MEDICAL GRADUATES IN AUSTRALIA

Liz Farmer
Professor, Australian Medical Council, Australia

The AMC is the national assessment authority for medical education in Australia. International medical graduates are able to obtain registration via several routes, one of which is by passing the AMC examination. The AMC examination consists of a computer-adaptive MCQ test of applied medical knowledge and a 16 station OSCE clinical examination. A second route enables IMGs employed in accredited health services to undertake longitudinal summative workplace-based assessment (WBA) with feedback over a period of 6 – 12 months in place of the OSCE examination.

WBA aims to align assessment directly to the performance of the doctor at work. Therefore the longitudinal assessment programme becomes an instrument of learning and feedback drives the learner to achieve requisite real world competencies as the educational goal (Frenk et al 2010).

WBA uses a broad range of assessment modes including Mini CEX, Case-based discussion of real patients, multisource feedback (MSF) from colleagues and co-workers, and Direct Observation of Procedural skills (DOPS).

The assessment model enables a broad range of abilities to be assessed in the real world including competencies that cannot be assessed in OSCEs but are vitally important to future practice in the 21st century. This presentation will detail the approach and explore our experiences using MSF in assessing summatively doctors' 21st century skills, including inter-professional team work and professional behaviours.

PD2

THE DEVELOPMENT OF ADVANCED PRACTICE NURSE OSCE AS A CERTIFICATION REQUIREMENT IN SINGAPORE

Karen Koh
Assistant Director of Nursing (Advanced Practice Nurse), National University Hospital, National University Health System, Singapore

Aims

The Master of Nursing programme was introduced in Singapore in 2003 and the first cohort of Advanced Practice Nurses (APN) graduated in 2005. To qualify as APNs locally, Registered Nurses (RNs) are required to complete the Master of Nursing (MN) course, which comprises two years full-time study with at least 500 hours of practicum. They will then undergo a one-year internship of 1,280 hours for clinical consolidation, followed by a panel interview leading to certification as APNs by the Singapore Nursing Board (SNB).

A paper "Implementation of Enhancements to Advanced Practice Nurse Internship" was proposed at Ministry of Health (Singapore) to replace the exit interview with an Objective Structured Clinical Examination (OSCE). Thereafter, an APN Exam Committee was set up and the Division of Graduate Medical Studies at National University of Singapore was appointed to develop and run the OSCE.

This presentation aims to share the processes the team undertook to develop the de novo APN OSCE which would be held in October 2015.

Methods

The processes include (1) development of blueprint, case scenarios, marking sheet, internal validation, standard settings, trials of cases; (2) preparation of case-writers, standardized patients, and examiners; and (3) preparation of candidates.

Results

The APN OSCE development is currently in the implementation phase.

Conclusion

The learning points upon expected launch in October 2015 will be shared in the presentation.

PANEL DISCUSSION 3 – PROFESSIONALISM IN CHALLENGING ENVIRONMENTS

Challenge of Hospital Accreditation to Professionalism
Ming-Jung Ho, Taiwan

Managing with Adverse Events in Medical Practice – The Challenge of Disclosing Adverse Outcomes
T Thirumoorthy, Singapore

Professionalism: Philosophy Collides with Reality
Alastair Campbell, Singapore

How Can Altruism Survive in This Super-Capitalistic Era?
Hiroshi Nishigori, Japan

PD3

CHALLENGE OF HOSPITAL ACCREDITATION TO PROFESSIONALISM

Ming-Jung Ho
Professor, Department of Medical Education & Bioethics, and Vice Chairman of the School of Medicine and Assistant Dean for International Affairs, National Taiwan University College of Medicine, Taiwan

Hospital accreditation has become a global trend for improving the quality of health care services. However, there is a paucity of literature on the effects of hospital accreditation on medical education. The purpose of this study was to investigate the effects of hospital accreditation on medical students in Taiwan.

From 2010 to 2012, we conducted semi-structured interviews with 34 senior, clinical year students at 11 different medical schools in Taiwan. Following a grounded theory approach, we transcribed and analyzed the transcripts concurrently with data collection in order to identify emergent themes.

Aside from the intended positive effects of hospital accreditation, this study revealed several unintended impacts on medical students, including decreased clinical learning opportunities, increased trivial workload, and violation of professional integrity. Taiwanese students expressed doubt concerning the value of hospital accreditation and reflected on the cultural and systemic context in which accreditation takes place. Their commentary addressed the challenges to medical professionalism associated with the globalization of hospital accreditation processes.

In conclusion, this study suggests that, beyond the improvement of patient safety and quality assurance, medical educators must recognize the unintended negative effects of hospital accreditation on medical professionalism and take into account differences in culture and health care systems amid the globalization of medicine.

Saturday 16th January 2016, 11.45am
Theatre, Level 1, University Cultural Centre

MANAGING WITH ADVERSE EVENTS IN MEDICAL PRACTICE – THE CHALLENGE OF DISCLOSING ADVERSE OUTCOMES

T Thirumoorthy
Associate Professor, Education, Duke-NUS Medical School, Singapore

An Adverse Event (AE) is usually defined as an unintended injury or complication (resulting in prolonged hospital stay, disability at the time of discharge or death and) caused by healthcare management rather than by the patient's underlying disease process. It is estimated to affect 1 in 10 patients admitted to the hospital of which 50% of AE are judged to be preventable. Despite the best

efforts of healthcare institutions and professionals, medical adverse events do happen. As humans are fallible even the best of clinicians can be subject to the worst of errors.

Both patients and clinicians agree on the value and need for full disclosure after an adverse event in the care of patients. Patients want and expect full disclosure of all information. Patients want to know what happened, why it happened, and that it will not happen again.

Physicians have difficulty in disclosure for various reasons and when in their professional view, the disclosure is not necessary. The challenges that make clinicians withhold full disclosure include: risk of litigation, experience of strong emotional impact of adverse events on clinicians, fear of strong emotional reaction from patients and families, lack or no experience and skills in disclosure of errors, fear of professional misconduct , loss of reputation and career advancement and lack of institutional support.

Most of the challenges point to a deficit in education in the professional development of the clinicians. Medical trainees are at risk for medical errors because of inexperience, often fatigued, and occasionally unsupervised, and often have to manage patients with complex medical problems. This paper will discuss how medical educationists can play an important role to help resolve this challenging professional, ethical and legal dilemma.

Saturday 16th January 2016, 11.45am
Theatre, Level 1, University Cultural Centre

PROFESSIONALISM: PHILOSOPHY COLLIDES WITH REALITY

Alastair Campbell
Director, Centre for Biomedical Ethics, Yong Loo Lin School of Medicine, National University of Singapore, National University Health System, Singapore

In this paper I first offer a philosophical account of the nature of professionalism in medicine, based on the vulnerability of patients and the knowledge and power imbalance between them and health care providers. Then, with reference to the programme called HeLP (Health ethics, Law and Professionalism) in the Yong Loo Lin School of Medicine at NUS, I shall look at the collision between this theoretical account of the professional ideal and the realities of the way medical students learn about right behaviour in the profession. Two major features of this challenging reality are the commodification of health care and the powerful influence of role models. In conclusion, I explore how Virtue Ethics may provide a way of softening this collision between philosophy and reality.

Saturday 16th January 2016, 11.45am
Theatre, Level 1, University Cultural Centre

HOW CAN ALTRUISM SURVIVE IN THIS SUPER-CAPITALISTIC ERA?

Hiroshi Nishigori
Associate Professor, Center for Medical Education, Kyoto University, Japan

More than 20 years have passed since the fall of the Berlin Wall, the symbol of the victory of capitalism over communism, now we recognize runaway capitalism and its influence on a variety of social activities including medicine and education. Super-capitalism, the term coined by Robert Reich, has been forcing us to be more competitive than ever, even in medicine and education, by seeking the highest profits for investors and offering the lowest prices for consumers. It is so natural that we medical educators have been struggling with teaching altruism under professionalism (telling students and young doctors to commit more to patient care) in this super-capitalistic era, as we have been coerced to be selfish to survive under this social system. In this panel discussion, first, I will present the influence of super-capitalism in medical education in general in Japan, followed by the recent doctors' altruistic behaviors. I will argue the need of alternative code of behavior other than super-capitalistic way of thinking. I look forward to discussing how medical educators can face with this unprecedented.

PANEL DISCUSSION 4 – COMMODIFICATION OF MEDICAL EDUCATION

Commodification of Medical Education - The Good, The Bad and The Ugly
Tan Chay Hoon, Singapore

A Case Study from Australia
Ian Frank, Australia

The Commodification of Medical Education: Rewards, Repercussions and Responsibilities
Vishna Devi V Nadarajah, Malaysia

Mitigating the Negative Impacts
Ardi Findyartini, Indonesia

PD4

COMMODIFICATION OF MEDICAL EDUCATION - THE GOOD, THE BAD AND THE UGLY

Tan Chay Hoon
Associate Professor, Department of Pharmacology, and Member, Centre for Medical Education (CenMED), Yong Loo Lin School of Medicine, National University of Singapore; and Consultant Psychiatrist, National University Hospital, National University Health System, Singapore

The medical school is a highly regarded learning institution that continually evolves and changes alongside its students, the environment and the demands of the community to ensure that health care practitioners stay relevant to the needs in a dynamic society.

On the one hand, the commodification of Medical Education has strengthened and enhanced some of the learning and has created multiple benefits globally. On the other hand, professionalism has been impacted. In 1999 Pellegrino wrote about "The commodification of medical and health care: the moral consequences of a paradigm shift from a professional to a market ethic". Ten years later, Hodges et al published "Cracks and crevices: Globalization discourse and medical education".

Globalization has transformed medical education, some of which has turned into a commercial enterprise. While teaching and assessment of professionalism remain the core pillars in all required competencies in the ACGME, SCOTTISH DOCTOR, CANMED, their quality has been threatened.

This paper discusses the good, the bad and the ugly perspectives of commodification and addresses the pertinent question: "How can medical schools ensure that the commodification of medical education will not erode its core values or compromise professionalism and its mission and vision?"

Saturday 16th January 2016, 11.45am
Function Room 1, Level 1, University Cultural Centre

A CASE STUDY FROM AUSTRALIA

Ian Frank
Chief Executive Officer, Australian Medical Council, Australia

Medical education and assessment has benefited from scientific and technical developments as well as educational theory that had originally been developed in other settings, such as the multiple choice question format now universally used in medicine but first developed in 1917 for the US military. In recent times advances in information technology in other industries have been applied in medical education to remote delivery of education materials, clinical simulations and the delivery and scoring of examinations and assessments. This presentation will examine how a technology developed in another industry has been adopted to overcome a particular challenge in the delivery of multi-station (OSCE) clinical examinations for the Australian Medical Council (AMC).

The AMC is the national accreditation authority for medical education in Australia. It also conducts the national screening examination for International Medical Graduates (IMGs) seeking registration in Australia. The AMC examination consists of a computer-adaptive MCQ test of applied medical knowledge and a 16 station OSCE clinical examination. In 2013 the AMC commissioned a purpose-designed high technology testing centre which included provision to monitor and record all clinical examination stations for quality assurance, calibration and examiner training purposes. Each cohort of 18 examinees generates 76.9 hours of video footage. This volume of video material presents a challenge to locate and isolate individual performance or examiner scoring for review and training purposes. The solution developed by the AMC was to adapt technology originally developed by the sporting industry for the "instant replay" that is now familiar in all major sporting events. This technology has been synchronised with the multiple camera recording and computer-tablet scoring systems at the AMC test centre, so that each examiner scoring decision is automatically linked to the relevant video footage. This allows for "instant replay" of the examinee performance related to the scoring decision without the need to view the entire footage of the examination.

The "instant replay" facility has multiple applications for medicine. Individual examinee performance can be quickly reviewed, the content of clinical examination stations can be fine-tuned and it facilitates examiner training and calibration. Other institutions are now also using this technology for small group clinical teaching where constraints of space do not allow the entire class to be present in the clinical setting. A clinical interaction can be captured on video, tagged for review and beamed to another location for the remainder of the class to view it in real time or later, more convenient time.

Access to these technologies is now more readily available. Events, such as the Association of Test Publishers (ATP) series of conferences each year, showcase innovations and developments in testing science and technology that have the potential to address many of the challenges faced by medical education. Many of these advances will be developed by industries far removed from traditional medical education but can be adapted for use in medicine.

Saturday 16th January 2016, 11.45am
Function Room 1, Level 1, University Cultural Centre

THE COMMODIFICATION OF MEDICAL EDUCATION: REWARDS, REPERCUSSIONS AND RESPONSIBILITIES

Vishna Devi V Nadarajah
Dean, Learning and Teaching, International Medical University, Malaysia

In most countries training of health professionals including doctors, dentists, pharmacists etc., are planned based on need. This process of identifying need in itself is complex and the process or methodology for this can be contentious. In developing countries, the need to increase accessibility to healthcare services and training of health professionals may have led to the commodification of medical education. Given the mixed connotation of commodification and the negative perception it may generate, the concept of commodification will be discussed in relation to massification. An analysis of areas of medical education that has been commoditised will also be presented. While commodification may have its rewards, the repercussions of poor planning and implementation can cause a negative impact. The impact of commodification on the number of medical schools, clinical learning sites, student and faculty recruitment, accreditation, graduate work readiness and national workforce planning will be reviewed. The responsibility of institutions, educators and regulatory bodies will also be discussed.

Saturday 16th January 2016, 11.45am
Function Room 1, Level 1, University Cultural Centre

MITIGATING THE NEGATIVE IMPACTS

Ardi Findyartini
Lecturer in Medical Education, Faculty of Medicine, Universitas Indonesia, Indonesia

Medical education has been facing a paramount challenge in answering public concern on the quality of patient care given its role in educating future medical doctors. The increase demand on the medical schools accountability and influence of 'market-based and consumer-driven' philosophy in higher education, including medical education, are in place. This movement of commodification in which the students are seen as customers and education is considered as investment rather than achieving public goods is a real challenge for medical education. This talk will highlight this issue and link the pros and cons to the real setting at the Faculty of Medicine Universitas Indonesia. It will argue that the commodification of medical education in this era is envitable because the development of future medical doctors is not an isolated process from the change of the society. In addition, empowering students as reflected in current principles of education may motivate students in having greater control of their own education. At the same time, teachers and education program can be encouraged to always improve their teaching and learning quality and to provide a well structured and dynamic curriculum. On the other hand, there are risks of putting students' satisfaction over teaching-learning quality, prioritizing efficiency over effectiveness, or turning medical education into money making enterprise. Therefore, setting and communicating the expectations which actually reflect public and healthcare needs are critical. Despite consideration of students' satisfaction in the teaching and learning process, a greater aim of medical education in building students' noble characters and capacity to contribute to the knowledge development in medicine and health care should be realized. In addition, the use of best evidence in guiding medical curriculum development and in providing critical decisions is also necessary to cover concerns on effectiveness and efficiency of the educational process. The commodification of medical education indeed requires adaptation from medical schools to assure that the value of education is not reduced to the financially measured exchange value.

SYMPOSIUM 7 - DEVELOPING COLLECTIVE COMPETENCE – HOW TO MAKE IT WORK

Just What is Collective Competence? A Newbie's Perspective
Nigel Tan, Singapore

No More Me Tarzan, You Jane But Lets Fly Higher Together in the Sky
Sophia Ang, Singapore

Collective Competence in Interprofessional Continuing Education
Lawrence Sherman, USA

Saturday 16th January 2016, 2.15pm
Hall, Level 1, University Cultural Centre

JUST WHAT IS COLLECTIVE COMPETENCE? A NEWBIE'S PERSPECTIVE

Nigel Tan
Education Director, National Neuroscience Institute, Singapore

Health professions education in Singapore has undergone a seismic shift in the past 5 years. As educators, we grapple with concepts and definitions of competence while we attempt to operationalize these concepts on the ground. So far, a significant portion of our discourse in competence focuses on the individual - is this person competent to function in his/her work environment? In real life though, our work as health professions takes place in teams. How well we deliver care depends on how we function together as a team - our collective competence. Yet our collective competence is seldom considered; we instead tend to focus on individual competency. As a newbie to the concept of collective competence, I found this concept simultaneously intimidating and exciting. I will try to share my thoughts on collective competence from my perspective as a new, wide-eyed wanderer in the field of health professions education, and hopefully nudge the audience into relooking competency using a collectivist lens.

S7

Saturday 16th January 2016, 2.15pm
Hall, Level 1, University Cultural Centre

NO MORE ME TARZAN, YOU JANE BUT LETS FLY HIGHER TOGETHER IN THE SKY

Sophia Ang
Associate Professor and Senior Consultant, Department of Anaesthesia, and Vice Chairman, Medical Board (Patient Safety and Operations), National University Hospital, National University Health System, Singapore

The hospital is now a very complex environment and the age old formula of doctor as leader rather than team player is unreliable in ensuring patient safety. The Me Tarzan , You Jane does not work so well now.

A good example is the issue of the retention central line guidewires which is the commonest serious complication of line placement procedures , we have now moved to the nurse and doctor together ensuring the wire is out.

Similarly in the work towards reducing objects left behind after surgical procedures a mandatory sign out between doctor and nurse after the procedure has been started.

We had 6 cases in 2014 and 2013 but since their implementation in 2015 we have had 3. Hopefully that signals a reduction in this problem.

Collaborative competence needs to be developed not only with other colleagues at work but also with patients , otherwise in our current model of care we will not be able to have enough healthcare staff to achieve a higher level of quality and we have also been working at the undergraduate level towards this new era of Collective Competence .

S7

Saturday 16th January 2016, 2.15pm
Hall, Level 1, University Cultural Centre

COLLECTIVE COMPETENCE IN INTERPROFESSIONAL CONTINUING EDUCATION

Lawrence Sherman
Senior Vice President, Educational Strategy, Prova Education, USA

For too long we have been in an environment of educational isolation, where interprofessional healthcare audiences participated in continuing education in isolation. This educational isolation had its benefits: the individual professions developed proficiencies and competencies, but primary focusing on their roles only. When tasked with working together, there were occasional conflicts and clashes, owing primarily to not having been taught as a team in order to be more efficient team-based practitioners. This interactive presentation will address current concepts and best practices in interprofessional continuing education (IPCE), hopefully with some audience participation and interaction!

Saturday 16th January 2016, 2.15pm
Theatre, Level 1, University Cultural Centre

SYMPOSIUM 8 - USING SIMULATED PATIENTS TO ENHANCE YOUR CURRICULUM

[1]Nicola Ngiam, [2]Victor Loh, [3]Manjari Lahiri, and [4]Liaw Sok Ying

[1]Consultant Paediatrician, Department of Paediatrics, National University Hospital, National University Health System, Singapore, [2]Education Director, Department of Family Medicine, Yong Loo Lin School of Medicine, National University of Singapore, National University Health System, Singapore, [3]Senior Consultant, Division of General Medicine (General Internal Medicine) and Rheumatology, National University Hospital, National University Health System, Singapore, and [4]Assistant Professor, Alice Lee Centre for Nursing Studies, Yong Loo Lin School of Medicine, National University of Singapore, National University Health System, Singapore

Simulated or standardized patients (SPs) are individuals trained to mimic the signs and symptoms in a real patient to provide a safe and realistic learning environment for learners in healthcare. Over time, the role of SPs has expanded from history taking and practice of communication skills to facilitation of teaching sessions and providing feedback. SPs have become a valuable tool in medical education. This symposium aims to provide a brief overview of the SP methodology as well as to illustrate how SPs can enhance your current curriculum and assist in meeting educational outcomes.

Examples of the use of SPs in undergraduate and postgraduate medical and nursing curriculums will be presented, beginning from design to implementation and outcomes. These specific examples will serve as inspiration to users who are keen to explore the use of SPs in their own curriculum.

SYMPOSIUM 9 - FACULTY DEVELOPMENT TO IMPROVE QUALITY OF PATIENT CARE

Begin with the End in Mind: Faculty Drives Patient Care Improvement Education
Tay Sook Muay, Singapore

Do Investments in Faculty Development Result in Better Patient Care?
Raymond Ngo, Singapore

UPHR-JFSM Approach to Faculty Development: Cascaded to Quality Care by Students and Resident Trainees
Harivelle Charmaine Hernando, Philippines

Saturday 16th January 2016, 2.15pm

Function Room 1, Level 1, University Cultural Centre

BEGIN WITH THE END IN MIND: FACULTY DRIVES PATIENT CARE IMPROVEMENT EDUCATION

Tay Sook Muay

Associate Dean, and Senior Consultant, Department of Anaesthesiology, Singapore General Hospital, Singapore

The Institute of Medicine (IOM) considers patient safety "indistinguishable from the delivery of quality health care." Ancient philosophers such as Aristotle and Plato also contemplated quality and its attributes. The most recent IOM work to identify the components of quality care for the 21st century is centered on the conceptual components of quality i.e. quality care is safe, effective, patient centered, timely, efficient, and equitable. Thus safety is the foundation upon which all other aspects of quality care are built.

The simplest definition of patient safety is the prevention of errors and adverse effects to patients associated with health care. While health care has become more effective it has also become more complex, with greater use of new technologies, medicines and treatments. Health services increasingly treat older and sicker patients who often present with significant co-morbidities requiring more and more difficult decisions as to health care priorities. In addition, increasing economic pressure on health systems often leads to overloaded health care environments. It is therefore pivotal to understand healthcare systems and the impact of complexity on patient care as well as the anatomy of healthcare errors which provides the basis for effecting improvements. Doctors must practice multidisciplinary healthcare and be effective team members who communicate well and collectively optimize patient care. Other key areas in patient safety include minimizing infection through improved patient control, maintaining patient safety following invasive procedures and improving medication safety. Another quality pivot is the engagement with patients and the caregivers.

The quality of patient care is determined by the quality of training, the infrastructure, competence of personnel and efficiency of operational systems. Faculty training and development play key role in improving the quality of patient care.

Saturday 16th January 2016, 2.15pm

Function Room 1, Level 1, University Cultural Centre

DO INVESTMENTS IN FACULTY DEVELOPMENT RESULT IN BETTER PATIENT CARE?

Raymond Ngo

Assistant Professor & Senior Consultant, Department of Otolaryngology (ENT) - Head & Neck Surgery, National University Hospital, National University Health System, Singapore

As educators in the field of medicine, our aim is to advance and improve our learners with the ultimate goal of better patient care quality. How a training program is conducted can have a major impact on what is learnt by the residents. This presentation will review the educational strategies on how patient care can be improved and the role of faculty development in employing these strategies.

S9

UPHR-JFSM APPROACH TO FACULTY DEVELOPMENT: CASCADED TO QUALITY CARE BY STUDENTS AND RESIDENT TRAINEES

Harivelle Charmaine Hernando
Dean, Jonelta School of Medicine, University of Perpetual Help; and Professor of Anatomy and Anesthesiology, UP College of Medicine, Philippines

Faculty are at the heart of any medical institution. Whether it involves the medical school or the medical center, capable and dedicated faculty prepare students to deliver high quality care and treatment services, as well as inspire and nurture students toward mastery and personal growth.

As Dean of the University of Perpetual Help Rizal - Jonelta Foundation School of Medicine (UPHR-JFSM) and Chair of the Department of Anesthesiology-University of Perpetual Help Medical Center, I require faculty to participate in one of the several programs of The Academy, the medical education unit. Since the implementation of these activities, passing rates in the Licensure Exams and Specialty Board have increased, accreditation have been attained and patient feedback have been encouraging.

The mission of The Academy revolves around strengthening the capacity of faculty of both school and medical center to be better educators. This is crucial in developing them to be: 1) effective facilitators; 2) efficient designers & implementors of Outcomes-Based curriculum teaching-learning activities; and 3) well-prepared educators to meet accreditation requirements. Thus, ensuring that students and Resident Physician Trainees are adequately prepared to address contemporary health and patient-care issues.

The faculty development activities involve: 1) Designing curriculum; 2) Facilitating learning; 3) Utilizing various assessment & evaluation strategies; 4) Maintaining professional expertise; and 5) Sustaining a culture of Research. Thus, faculty work collaboratively in order to focus on developing disaster-prepared medical graduates & doctors since the University of Perpetual Help DALTA Medical Center is the First AFP Reserve Hospital, South of Metro Manila.

Cascading the faculty development programs for the upliftment of the medical student, The Academy offers the following: 1) Pedagogy – deals with the awareness of one's learning styles and approaches; 2) Mentoring – focuses on the coping, adjusting and guiding of the student to medical life and its challenges; 3) Revalidation of students' acquired knowledge and skills in the Basic Sciences (Seminar I) and Clinical Sciences (Seminar II); 4) Seminar Refresher Module – aiding students to pass Seminar I & II comprehensive revalidation exam; and 5) Mock Boards – assessing the preparedness of our graduates and advising them for the Physician Licensure Examination.

The programs of The Academy applicable to the Resident Physician Trainee are: 1) Pedagogy; 2) Mentoring in the context of Resident Trainee life; 3) Specialty Board Refresher Modules – weekly didactics and examinations to prepare the Resident Trainee for the Specialty Board Exam; and 4) Mock Specialty Boards Exam.

Skilled, confident and effective faculty provide the foundation for developing and sustaining globally competitive and locally responsive medical graduates and health practitioners.

L5

CONTINUOUS QUALITY IMPROVEMENT: FROM EDUCATION TO CLINICAL CARE

Ducksun Ahn
Professor, College of Medicine; and President, Korean Institute of Medical Education and Evaluation, Republic of Korea

Korea introduced accreditation of medical schools to mitigate the poor quality of education provided by many new medical schools that were established in the 1980-90s. To rectify this situation a national accrediting agency was established, and a full-scale accreditation was launched in 2000. The meta-evaluation result of the study from 2011-2015 has indicated that that while accreditation has been a definite factor in improving school facilities and faculty capacity, but has not changed the education culture itself.

15 years of accreditation experience have revealed certain innate limitations of accreditation. It is a sporadic event occurring every 4-6 years and there are no progress checks in between. By the next round of accreditation, schools tend to have new deans who do not even remember the last accreditation visit. To achieve the goals of accreditation and overcome these challenges, the school must do its part to improve the quality of medical education by an ongoing internal program evaluation for continuous quality improvement (CQI), as the meta-evaluation report strongly recommends.

Currently CQI is prescribed in the new accreditation standards, in addition to the mandatory progress report schools must submit every two years. Through 2012-2015, CQI compliance has been quite variable from nil to well-structured standing CQI units within school, and with varying functional degrees. CQI is rather new for most medical schools and educators, and even schools with CQI experience from hospital accreditation could not transfer this valuable experience to medical schools, due to the significant disjunction from practice to education and vice versa.

Problems identified in prior hospital accreditations can be traced back to issues with medical education. The national accrediting agency, however, lacks the capacity to evaluate CQI itself, or its relation to clinical practice. To perform an accreditation of school and hospital simultaneously holds the potential to translate precious feedback into an integrated CQI practice across both institutions. It is without a doubt a daunting task for any organization to implement a program that would change the foundation of its culture.

In this presentation, author will discuss CQI in relation to past experiences of accreditation and put the current status of CQI at Korean medical schools into perspective.

L6

SCHOLARSHIP IN HEALTH PROFESSIONAL EDUCATION: FINDING YOUR NICHE

Kevin Eva
Associate Director and Senior Scientist, Centre for Health Education Scholarship; and Director of Educational Research and Scholarship, Department of Medicine, University of British Columbia, Canada

Health professional education as a field is comprised of educators, innovators, researchers, administrators, clinicians, academics, and countless other identities. They are clearly not mutually exclusive, but nor should they be deemed mutually inclusive. Just as in clinical practice, there are specializations within health professional education that overlap with one another in important ways, but need to be nurtured, supported, and rewarded in their own rights if we are to maintain the strengths provided by complementary expertise. No one person can be expected to embody the diversity that has enabled the current success and continued maturation of health professional education. What can be expected of every person in the field though is that the roles they adopt be practiced with depth of scholarship.

In this talk I will draw upon the classic taxonomies of Boyer and others, addressing the questions of what is scholarship and how the concept might influence both learning and practice, why we should treat scholarship as a criterion through which success and best practice is judged, and how individuals with diverse passions can engage in scholarly activity. I will then use this foundation to offer some reflections on the continued evolution of the field and its constant struggle to successfully manage the tension between practical needs and theoretical advances.

W3A1

Sunday 17th January 2016, 9.00am – 12.30pm
SMART Classroom, Level 4, MD6
National University of Singapore

TEACHING OF SCIENCES IN HEALTH PROFESSIONAL EDUCATION: UPDATING THE LEARNING STRATEGIES

[1]Matthew C. E. Gwee, [2]Peter GM de Jong, [1]Sandy Cook and [3]Vaughan Kippers

[1]Singapore, [2] The Netherlands and [3] Australia

Workshop Description

New educational and technological developments have provided the medical science educator with new opportunities to improve and update science education to a modern and challenging training environment. In this symposium an international panel of presenters will address and showcase some of these new approaches, followed by a general discussion with the audience.

W3A2

Sunday 17th January 2016, 9.00am – 12.30pm
Learning Room #01-02, Level 1, MD6
National University of Singapore

APPLYING TECHNOLOGY TO IMPROVE THE QUALITY OF ASSESSMENT IN HIGH STAKES TESTING

Ian Frank and Liz Farmer
Australia

Workshop Description

Overview of the design and processes for creating the NTC for high stakes testing

The digital and electronic technology for station capture and tablet marking in real time

Advantages of electronic scoring

Uses of the technology to improve the quality of assessment in high stakes testing:
• Quality Assurance during an examination by direct observation of all stations
• Footage for examiner and SP training
• Candidate Appeals
• Remote scoring of recorded stations
• Platform for research initiatives to improve assessment
• Platform for international collaborations

Sunday 17th January 2016, 9.00am – 12.30pm

Learning Room #01-01B, Level 1, MD6
National University of Singapore

COMMUNICATIONS SKILLS + PRESENTATION SKILLS = GREAT EDUCATION

Lawrence Sherman and Kathy Chappell
USA

Workshop Description

This workshop is designed to be completely interactive, and to share and enhance best practices in presentation styles and skills. The target audience for this workshop is novice and experienced medical educators seeking to enhance and embellish their presentation techniques, while also helping their peers to do the same.

The workshop will be facilitated by Lawrence Sherman, FACEHP, CHCP, and Kathy Chappell, PhD, RN and will be geared towards identifying the best practices in each participant, and encouraging group discussion. Lists of skills and techniques will be developed, and groups will work to prioritize the skills into need to have versus nice to have, and individualized differences will be highlighted and addressed.

Some of the topics that will be addressed include:
- Real-time needs assessment
- Reading an audience
- Use of visual aids
- Positioning/posture/voice/hands
- Moving from passive to active teaching
- Meeting Interprofessional and Multidisciplinary needs

Participants will be encouraged to be open and active during the session!

W3A4

Sunday 17th January 2016, 9.00am – 12.30pm

Multipurpose Room 3, Level 3, MD1
National University of Singapore

DEVELOPING AND ASSESSING RESILIENCE IN MEDICAL AND HEALTHCARE PROFESSIONALS

Máire Kerrin and Amy Aitkenhead
United Kingdom

Workshop Description

Resilience can be understood as 'the ability to bounce back or positively adapt to ongoing stress or adversity'. Many resilience-enhancing interventions have shown improvements in developing resilience resources in employees so that they can better cope with workplace stressors that lead to increases in goal attainment, productivity, and improved performance.

Drawing from theories of stress inoculation, it is possible that exposing individuals to simulated challenging workplace scenarios, through Situational Judgment Scenarios (SJS), can promote the development of resilience to future workplace challenges. The SJS approach aims to build competence in harnessing resilience resources to deal with workplace stressors relevant to healthcare with the provision of immediate feedback, time for problem-solving, evaluation, and reflection.

The workshop will begin with an overview of different approaches to developing and assessing resilience, to provide participants with an understanding of metrics in this context. Participants will then be introduced to the features involved in developing an effective situational judgement scenario for use in developing and assessing resilience utilising text based or video-based scenarios. Working in small groups, participants will practice developing situational judgement scenarios, as well as developing 'expert' rationales for feedback. In the final part of the workshop, groups will consider developing these scenarios into a script format, suitable for the use in a video format.

By the end of the session, participants will:

- Understand the importance of developing resilience effectively within a healthcare setting
- Consider the different approaches to developing and assessing resilience
- Understand the features important in developing effective situational judgement scenarios for developing and assessing resilience (e.g., designing items, response formats and 'expert' rationales)
- Practice the development of situational judgement scenarios for developing resilience
- Consider the pros and cons of using a 'low fidelity' text base SJS with a 'medium fidelity' video-based situational judgement scenarios

This workshop is relevant for all health professional educators interested in the development and in particular the assessment of resilience at work

BEST ABSTRACT FOR POSTER PRESENTATION FINALISTS

BP01   **Evaluation of the Revised Medication Management Service Training Program in Singapore General Hospital Outpatient Pharmacy**
Khee Giat Yeng, Singapore

BP02   **An Appraisal of the Literature on the Use of E-Portfolios for Workplace-Based Assessments in Undergraduate Medical Education**
James Stratford-Martin, United Kingdom

BP03   **Effectiveness of an Animation Case-Based Learning Approach to Improve Frontline Nurses' Knowledge and Attitude on Vital Sign Monitoring Towards Detecting Clinical Deterioration: A Multi-Site, Pilot Randomized Controlled Trial.**
Lin Yongxing Patrick, Singapore

BP04   **Evaluating the Predictive Value of English Proficiency on Student Performance in Medical School**
M.Marwan Dabbagh, Saudi Arabia

BP05   **Effectiveness of E-learning in Health Professional Education: Evidence Synthesis to Inform the Transformation of Health Workforce**
Monika Semwal, Singapore

BP06   **Can Non-Technical Skills in Junior Doctors be Reliably Assessed with the Use of a Video Training Exercise?**
Joanne Mullender, Australia

BP07   **Whither The Global Minimum Essential Requirements in Medical Education? Perspectives in China**
Wang Hongman, China

BP08   **Gender Differences in Motivation and Performance on Receiving Negative Verbal Feedback in U.K. Trainees**
Anita Sanghi, United Kingdom

BP09   **Think Aloud Protocol for ICU Rounds: An Assessment of Information Assimilation and Rational Thinking amongst Trainees.**
Shahla Siddiqui, Singapore

BP10   **Photo Elicitation: A Novel Qualitative Method in Medical Education Research**
Lucy Rosby, Singapore

BP11   **Are You a Red, Green or Amber?**
Emily Lim, Singapore

BP12   **Can Compassion be Taught? A Medical Students' Compassion Discourse**
Katie Whan, United Kingdom

BP13	**E-Learning - Continuous Improvement Program - Quality of Clinical Assessment Tools, Tracking Tools, Feedback Using It.**
	Lee Mun Tuck, Singapore
BP14	**The Experience of an Appreciative Inquiry Workshop for the Innovation of Mongolian National University of Medical Sciences**
	Yoon Hyun Bae, South Korea
BP15	**Does Classroom-Based Crew Resource Management Training Have an Effect on Attitudes Between Doctors and Nurses?**
	Chan Ka Wai Christina, Hong Kong S.A.R.
BP16	**Developing and Evaluating Effective Teaching Using Resident-Run Workshops**
	Ng Shuen Kai Jefrrey, Singapore
BP17	**Patient Safety in Surgical Education (PASSED): A Pilot Study Using Ipad Game to Teach Patient Safety in Undergraduate Medical Curriculum.**
	Kow Wei Chieh Alfred, Singapore
BP18	**Moulage for Medical Simulation: Budget Gap? Bridge It!**
	Hor Chuen Yee, Singapore
BP19	**Exploring Residents' Experience and Impact of a Hybrid Method of High Fidelity Simulation**
	Jacqueline Ong, Singapore
BP20	**Can We Really Teach Diagnostic Reasoning to Naive Medical Students?**
	Adrian Kee, Singapore
BP21	**Sleep, Activity and Fatigue Reported by Post-Graduate Year 1(PGY1) Residents - A Prospective Cohort Study Comparing Effects of Night-Float Versus Traditional On-Call**
	Low Jia Ming, Singapore
BP22	**A Quantitative Analysis of Activity and Fatigue Within Post-Graduate Year 1 (PGY1) Residents in our Hospital Compared to Faculty Members- A Prospective Cohort Study**
	Tan Mae Yue, Singapore
BP23	**How Has Medicine Elective Posting Changed Student's Perception on Acute Medicine**
	Lee Wai Ching, Singapore
BP24	**A Distance Learning Hybrid Model for Medical Education: A Case Study from Oceania University of Medicine**
	Viali Lameko, Samoa
BP25	**Evolution of a Modified OSCE as a Formative Assessment Tool in Undergraduate Orthopaedics**
	Chee Yu Han, Singapore
BP26	**The Implementation of Cataract Simulator to Improve Junior Ophthalmology Residents' Confidence in Cataract Training**
	Kenric Fan, Singapore

BP27   **Self-Reported Academic Misconduct Among Medical Students: A Cross Sectional Study at a College of Medicine, Saudi Arabia**
Saleh Alanezi, Saudi Arabia

BP28   **The Stress of Preceptors Who Involved in Post-Graduate Training in Taiwan**
Chen Hsin Hsin, Taiwan

BP29   **Simple But Effective: Learning Anatomy By Colouring**
Eugenie Phyu Aye Thwin, Singapore

BP30   **Evaluation of a Structured Inter-Professional Leadership Pilot Programme**
Lim Eng Huat Lawrence, Singapore

BP31   **Trends in Leadership Skills Among First & Final Year Medical Students & Their Lecturers**
Dimuthu Gunasekara, Sri Lanka

BP32   **Using Stories to Empower Research**
Foo Yang Yann, Singapore

BP33   **Cartoon-Style Handouts and their Effectiveness Relative to Traditional-Style Handouts in an Assigned Self-Study Session of Preclinical Medical Students; Randomized Controlled Trials. (Cartoon Study)**
Detajin Junhasavasdikul, Thailand

BP34   **Learning Experience of University of Malaya Primary Care Trainees in Palliative Care Elective Rotation**
Norita Hussein, Malaysia

BP35   **A Comparison of Undergraduate Clinical Ophthalmology Learning Methods: Smart Phone Television Display Versus Slit Lamp Teaching Tube**
Catherine Josephine Goenadi, Singapore

BP36   **Eliminating "Wrong Patients"Medication Errors in an Outpatient Clinic in a Community Hospital**
Heng Kwee Mui Jasmine, Singapore

BP37   **Design and Implementation of a Situational Judgement Test to Assess Non-Academic Attributes for Selection into Medical School in Singapore: Evidence from 2013-2015**
Májire Kerrin, United Kingdom

BP38   **Designing, Developing and Deploying a Community Orientated Hand Surgery Curriculum for Cambodia**
Sabrina Cheok, Singapore

BP39   **The Integrated Resuscitation Drill: Instilling Skills and Patient Safety through Simulation**
Dorai Raj D. Appadorai, Singapore

BP40   **"Learning What No Textbook Can Teach" - A Process Oriented Approach to Reinforce Observational Learning**
Anbarasi K, India

BP01

EVALUATION OF THE REVISED MEDICATION MANAGEMENT SERVICE TRAINING PROGRAM IN SINGAPORE GENERAL HOSPITAL OUTPATIENT PHARMACY

Khee GY, _Tay JY, Koh SK, Chow MY, Lim KW, Ong WC, Lim PS_
Department of Pharmacy, Singapore General Hospital, Singapore

Aims

The Medication Management Service (MMS) training program, started in January 2013, provides broad-based training and self-directed learning through guided tasks and assignments for all outpatient pharmacists in Singapore General Hospital. The revised 2-phases (basic and advanced) program consisting of tutorials, continuing education and clinical attachments was implemented in April 2014 with each phase lasting for 6 months. The objectives of the basic and advanced MMS training program were to respectively, enhance the competency for medication review and dispensing and ensure pharmacists possess broad based competency before embarking on specialized training.

The aims of this study were to (i) evaluate the effectiveness of the revised basic MMS training program and (ii) identify areas for improvement.

Methods

In this study, Kirkpatrick's four-level evaluation model was used to recognize and evaluate the program outcome measures. For level 1 (Reactions) evaluation, online questionnaire with five-point scale and open-ended questions were used to seek trainees' feedback on the program. For level 2 (learning), self-assessment by trainees on their perceived competency pre- and post-training, and results from the rated multiple choice questions test administered post-training were evaluated. The effectiveness of the program was assessed from the behavioral changes (level 3) observed at pre-and 6 months post-training, against the 38 behaviors in the patient care delivery and problem solving competency cluster of the in-house General Level Competency Framework (GLF). The performance of the trainees for each behavior was rated from 1 to 4 (1=rarely; 2=sometimes; 3=usually; 4=consistently). Advanced training is in-progress, hence, level 4 (Results) was not evaluated. Competency status at pre- and post-training was compared using the Wilcoxon signed rank test.

Results

Fifteen trainees completed the basic training in this study. Online questionnaires achieved a response rate of 93%. Majority of trainees (79%) rated basic MMS training program as good and excellent. Positive response was highest in tutorials (84.3%), followed by continuous education (CE) sessions (70.6%) and lowest in clinic attachments (67.6%). Suggestions provided for improvement include increasing the frequency and opportunities of hands-on patient interview at clinical attachments. A significant improvement (p<0.013) in delivering patient care was perceived by 64% of trainees post- training (Median=3; IQR: 3-4) than pre-training (Median=3; IQR: 2.75-3). All but one trainee passed the MMS test, achieving a median score of 80 (IQR: 76-86). Thirteen trainees completed their GLF assessment. Greater proportion of behaviors (69.2%) was graded highest performance at post-training compared to pre-training (35.3%) in patient care delivery cluster. Similar improvement was observed in problem solving cluster, where 14.3% and 35.9% of the behaviors were graded highest performance at pre- and post-training respectively. Overall, twenty-three out of the 38

behaviors have demonstrated significant improvement post-training. There was no significant improvement observed in 3 behaviors as the trainees were practicing at the highest performance level during the pre-training evaluation. Performance levels for other behaviors were maintained over the 6-months training.

Conclusion

Our evaluation shows that the revised training program is effective in improving trainees' competency and well-received by trainees. Suggestions for improvement provide greater insight to enhance the training program.

AN APPRAISAL OF THE LITERATURE ON THE USE OF E-PORTFOLIOS FOR WORKPLACE-BASED ASSESSMENTS IN UNDERGRADUATE MEDICAL EDUCATION

[1]*Mountjoy S, [2]*Mulki O, [3]*Kow K, [2]*Stratford-Martin J*

[1]*School of Medicine, Imperial College London, United Kingdom, [2]Education, School of Medicine, Imperial College London, United Kingdom, [3]Department of Medicine, School of Medicine, Imperial College London, United Kingdom*

Aims

Review published literature relating to the use of workplace-based assessments (WPBA) in undergraduate medical electronic portfolios. The results will support the development of an e-portfolio for the clinical phase of a new collaborative international MBBS programme.

Methods

We conducted a narrative review of relevant literature from 1990-2015 searching the databases OVID, MEDLINE, OLDMEDLINE, PsycINFO, PsycARTICLES, Embase, Global Health, HMIC (health management information consortium), Maternity and Infant Care, Transport Database, and ERIC (The Education Resource Information Centre). We searched for the terms: 'eportfolio', 'e-portfolio', 'electronic portfolio', 'undergraduate', 'assessment', 'medicine' AND 'medical school' as both MESH terms and keyword searches. We excluded PDAs (personal digital assistants) that didn't refer to e-portfolio and assessment directly, non-medical school e-portfolios, paper portfolios and post-graduate level training (although graduate entry medical school was included). Our initial search resulted in 1100 papers, review of the abstracts and application of exclusion criteria reduced the list to 24 papers. Following a grey literature search, a further 11 papers were added giving a total of 35. These were reviewed separately by two of the authors, OM and SM.

Results

6 papers directly referred to the possible benefits of using WPBA in an e-portfolio format in undergraduate medical education. The benefits related mainly to improved tracking of skills and attitudes over time and recording developmental progress. In addition it was noted that using an electronic portfolio for WPBAs provided a more dynamic learning tool, where feedback could be easily integrated to the personal development of the students. It was also reported that online assessment systems appeared to offer advantages over paper systems in allowing more robust data analysis, reporting, and greater flexibility of use.

Negative aspects reported included no demonstrable improvement of patient care and safety and the variable learning curve in the effective use of the electronic platform.

Conclusion

Literature relating to the use of e-portfolios for WPBA acknowledges that they can be useful tools to address the requirements of competency based medical education. However the literature around their use at an undergraduate medical school level is limited. Only a small number of papers directly evaluate the specific benefits of an electronic platform, which mainly relate to increase ease of data collection, correlation and analysis. Negative aspects mainly relate to faculty and student engagement with an electronic platform.

Given that many undergraduate medical schools are moving to record WPBA on en electronic platform, our review suggests that more study and research is required in this area. We plan to carry out further research relating to the use of e-portfolios for WPBA.

EFFECTIVENESS OF AN ANIMATION CASE-BASED LEARNING APPROACH TO IMPROVE FRONTLINE NURSES' KNOWLEDGE AND ATTITUDE ON VITAL SIGN MONITORING TOWARDS DETECTING CLINICAL DETERIORATION: A MULTI-SITE, PILOT RANDOMIZED CONTROLLED TRIAL

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Aims

Learning of physiological concepts remains a challenge for many nurses. Much of a nurse's clinical duties such as vital sign monitoring are underpinned by a sound understanding of physiological and pathophysiological concepts. Vital signs form an important set of objective information to establish patients' physiological stability. Despite its importance, nurses' ability to detect clinical deterioration remains suboptimal; hence suggesting a lack of knowledge of the effect of physiological compensatory mechanisms underlying vital signs changes. Hence, this study aims to evaluate the effectiveness of an innovative education intervention in increasing the knowledge and attitude of enrolled nurses on vital sign monitoring towards detecting clinical deterioration. It also seeks to examine nurses' motivation to learn using these learning materials and their perceived ability to transfer learning into clinical practice following the intervention.

Methods

Conducted in 2 large, tertiary hospitals in Singapore, a randomised controlled trial with a pre and post-test design was conducted. A total of 50 Enrolled Nurses were recruited and randomized using a computer randomization list to receive either an animation case-based learning (n=26) or a conventional power point learning (n=24). Participants were blinded their assignment. Knowledge and attitude tests were administered before and immediately after the intervention, with further examination of knowledge retention and learning transfer 2.5 months later. Motivation to learn using the allocated learning materials and the nurses' perceived transfer of learning into the clinical setting were also measured.

Results

The experimental groups were homogeneous in the baseline knowledge and attitude scores. Following the intervention, the experimental group showed significant improvement in both knowledge ($p<0.001$) and attitude ($p<0.001$) scores at the post-test. Between group comparison showed that the experimental group has significant improvements in both knowledge ($p<0.001$) and attitude ($p<0.001$) scores. The experimental group displayed higher motivation ($p=0.001$) then the control group. Significant differences on knowledge ($p=0.001$) and learning transfer ($p<0.05$) were also found in the 2.5 months later.

Conclusion

Text-based learning of bioscience concepts using remains a challenge for many nurses. A case-based approach was used in the study intervention to integrate the physiology concepts with a clinical scenario. By making the learning of these concepts relevant to real-life situations through case-based scenarios, and making the learning process interesting by using video animation video, it appeared that the nurses in the experimental group were more motivated and more likely to remember the concepts. The positive outcomes demonstrated are attributed to the effective medium of learning vital sign changes using innovative animation and case-based approach. While the animation improved their motivation to learn, the case-based approach seeks to correct misconceptions about physiological changes in vital signs. The occurrence of undetected clinical deterioration can potentially be avoided and patient safety within the general wards can be enhanced.

EVALUATING THE PREDICTIVE VALUE OF ENGLISH PROFICIENCY ON STUDENT PERFORMANCE IN MEDICAL SCHOOL

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Aims

Most educational acts are primarily exchanged through human language; be it dialogue or text. Hence, adequate proficiency in the specific language of instruction at any college of any major should logically be one of the most fundamental prerequisites for admission. For that purpose, several standardized English proficiency assessment tests were devised and later recognized internationally by thousands of institutes worldwide. Our hypothesis is that If it were not for the basic English proficiency, the student would most likely not be able to fulfill their assignments or study goals and thus not be able to attain their maximal performance potential as the lack of language competence would act as a limiting factor. The main goal of this study is to depict the relation between students' English language converse-read-comprehend-write (CRCW) ability and their in-course performance.

Methods

We carried out this study in the college of Medicine at Alfaisal University. In order to test this hypothesis and depict how far it applies, we used the applicants' admission scores of the International English Language Testing System (IELTS) and the Test of English as a Foreign Language (TOEFL) -from the previous six academic years- to represent the students' CRCW ability and compared that with their cumulative Grade Point Averages and Progress Test scores as performance indicators. We used Pearson's correlations in addition to multivariate linear regression tests to assess the predictive relationship between students' cGPA and progress test results against their performance in the TOEFL and IELTS.

Results

Our results found the TOEFL scores to be predictive of cGPA in preclinical years ($p<0.001$), however, this was not observed in clinical years. On the other hand, IELTS was not found to be predictive of performance in neither preclinical nor clinical years. TOEFL was a positive predictor of the national Progress Test scores in all years of medical college ($p<0.001$), unlike the IELTS.

Conclusion

Several studies have shown English proficiency to be a significant indicator of student performance; however, despite the reported predictability of TOEFL on PBL performance and the wide application of both TOEFL and IELTS exams in the medical admission process, it is surprising that there is no sufficient literature correlating TOEFL and/or IELTS to important student performance indicators such as GPA and PT.

BP05

EFFECTIVENESS OF ELEARNING IN HEALTH PROFESSIONAL EDUCATION: EVIDENCE SYNTHESIS TO INFORM THE TRANSFORMATION OF HEALTH WORKFORCE

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Aims

Successfully meeting the evolving health needs of populations worldwide requires developing the right set of skills and competencies through transforming and scaling up of current healthcare professional education strategies. The increasing use of information and communication technologies for educational purposes (i.e. eLearning) is considered as one of the key strategic directions that could shape strong health education and training systems. E-Learning has under-exploited potential to transform and support learning globally in a cost-effective manner. However, the existing evidence synthesis on the use of various eLearning modalities for health professionals' education is scattered, of variable quality, and inconclusive. The aim of our research initiative is to address and resolve this important gap in knowledge by performing robust and extensive evidence synthesis on the effectiveness of eLearning in health professional education.

Methods

Our research initiative comprises of 30+ researchers from world-class institutions such as LKC Medicine, NTU, Karolinska Institute and Imperial College. We collaborate closely with the Cochrane Collaboration and are currently working on >12 Cochrane systematic reviews - which are considered the highest level of research evidence. We consider eligible evidence on the use of eLearning for pre- and post-registration health professional education, i.e. education of candidates for, and holders of, the qualifications listed in the Health Field of Education and Training of the International Standard Classification of Education. We cover all e-Learning modalities: online and offline computer based education, immersive virtual reality environments, patient simulations, psychomotor skills trainers, digital game based learning, learning management systems and massive open online courses and mLearning. We primarily assess the impact of e-Learning for health professionals on learners' knowledge, skills, attitudes and satisfaction as well as patient and population outcomes.

Results

Our expert-team developed a comprehensive search strategy of numerous databases and other sources which retrieved >1,800 eligible individual and cluster randomised controlled trials. We are currently performing data extraction and risk of bias assessment from the included studies using tailored and piloted data extraction forms. The data will be analysed using statistical pooling (i.e. meta-analysis) and narrative synthesis. The quality of collated evidence will be evaluated using GRADE assessment.

Conclusion

By analysing this huge and invaluable data, we intend to produce clear, exhaustive and evidence-supported guidance on the use of eLearning in health professional education. Future steps of our research initiative include evidence synthesis of qualitative evidence of barriers to and facilitators of eLearning as well as a series of 'Cochrane+' reviews where we will collate evidence from other experimental and observational study designs.

BP06

CAN NON-TECHNICAL SKILLS IN JUNIOR DOCTORS BE RELIABLY ASSESSED WITH THE USE OF A VIDEO TRAINING EXERCISE?

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Aims

It is well recognised that non-technical skills (NTS) contribute to patient safety and effective clinical care. Despite this knowledge, traditional methods of selecting candidates into specialist training programmes have focused little on such skills. Behavioural marker systems have been used to reliably assess these skills in individuals, but require considerable rater training.

This project uses a behavioural marker system to assess NTS in junior doctors as part of a candidate selection programme. It aims to ascertain the inter-rater reliability that can be achieved using a short teaching module and video calibration exercise, and the acceptability of this process for assessors.

Methods

Simulation scenarios have been used in conjunction with interviews to select candidates in to the Western Australian Anaesthesia Training Programme for the last the five years. Candidates attending for interviews undertake two simulation scenarios designed to assess management of the acutely unwell patient. Each scenario is marked by three assessors independently. The assessors are experienced clinicians and simulation instructors, but had have not previously received formal training in evaluating NTS.

This year candidates will be assessed using a behavioural marker system designed specifically for observing non-technical skills in junior doctors managing medical emergencies. It has been developed through a process of literature review, qualitative analysis of twenty-nine critical incident technique interviews and a panel of subject matter experts. A novel teaching module and video calibration exercise has been produced that explains the nature of NTS categories and scoring criteria, with examples of behaviour at each end of the scale. This will be completed by assessors prior to attending the simulation session. Acceptability of the process will be examined through a survey of assessors opinions.

Marks from three assessors for forty candidates undertaking two simulation scenarios will be assessed for inter-rater reliability. These scores will also be linked with a global rating score, clinical knowledge and previous simulation experience. In addition, the results will be compared with inter-rater reliability from previous selection years, when no calibration exercise was utilised.

Results

Results are currently awaited as the selection process is taking place on 7-9 September 2015. Seventeen assessors have been identified to participate in the online teaching module. Results of inter-rater reliability using will be reported using a reliability coefficient, along with quantitative and qualitative data on acceptability from assessors.

Conclusion

Our results will show whether a video calibration exercise can be used to reliably assess the NTS of junior doctors performing a simulated scenario. If successful, this could be an effective method of improving training in the use of behavioural marking systems.

WHITHER THE GLOBAL MINIMUM ESSENTIAL REQUIREMENTS IN MEDICAL EDUCATION? PERSPECTIVES IN CHINA

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Aims

This paper presents findings of a study about knowledge, attitudes and practice of the teachers of key medical university, medical care personnel in their teaching hospitals, patients and their families in Beijing, after the experimental implementation of Global Minimum Essential Requirements in Medical Education (GMER). This study seeks to provide more positive methods for establishing the most localized and workable "Minimum Basic Requirements" from three aspects.

Methods

The survey used a multi-stage stratified sampling. A total of 218 respondents, including teachers at two famous medical universities, medical care personnel, and hospitalized patients and their families in Beijing were investigated by means of direct interviews using questionnaires in March 2012. The data of the survey were analyzed with statistical methods.

Results

The popularizing rate of the GMER was below 5% in general. The rate among the teachers was higher in comparison, but still less than 15%. More than 85% of the entire sample agreed with the seven domains of the GMER. Among the "Professional Values of Medical Undergraduates", "Responsibility" ranked first (95.3% of the total), while 69.7% of the respondents agreed that the "Professionalism" of medical undergraduates should be improved urgently.

Conclusion

The awareness rate of Global Minimum Essential Requirements in medical education was not encouraging, although its seven domains of it were widely accepted. Three kinds of respondents provided constructive suggestions for localized "Minimum Basic Requirements". Respondents attached much importance to "Responsibility" and "Professionalism". Medical professional quality was more valued than humanity quality, and the humanity cultivation should be developed not only at medical universities and colleges, but also from babies, such as encouraging children to read classics and nurturing their moral growth.

BP08

GENDER DIFFERENCES IN MOTIVATION AND PERFORMANCE ON RECEIVING NEGATIVE VERBAL FEEDBACK IN U.K. TRAINEES

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Aims

Negative verbal feedback is an under researched area in higher education. This was an exclusive study looking at the effect of negative verbal feedback on morale, motivation and performance of Obstetrics and Gynaecology trainees in London. I also looked at the gender differences on the effect of negative verbal feedback on motivation and performance of the trainees. This study was conducted towards my dissertation for the degree of M.A. in education.

Methods

A cross sectional research design was chosen to conduct a survey on 594 Obstetrics and Gynaecology trainees in London in 2011.

115 questionnaires were returned. A univariate and bivariate analysis and thematic analysis of the data was conducted.

Results

The prevalence of negative verbal feedback was 69%. 36% of the trainees had experienced lowering of morale and 37-40% of trainees were demotivated. Negative verbal feedback had a negative effect on performance in 48-74% of trainees. The commonest trigger of negative verbal feedback was cases in the clinic or ward (46%). 87% of the trainees had received negative verbal feedback from the consultants. Females were more motivated versus males when faced with negative verbal feedback. 42.6% of females were likely to try harder when they received negative feedback versus 11% of males and this was statistically significant (p=0.0133). On receiving negative verbal feedback, 39.3% females had undiminished motivation to succeed versus 28% of males.

In this study, males were more likely to show a drop in performance versus females. More males (27.7%) thought that negative verbal feedback had a negative impact on their ability to learn for examinations versus 8.2 % of females. 77.7% of males thought that negative verbal feedback had affected their training versus 26% of females. 5.6% of males thought that their training was not affected versus 60.6% of females. This was statistically highly significant, p= <0.0001.

However the same proportion of males (22.2%) and females (21.7%) found the negative verbal feedback so humiliating that they considered leaving the specialty.

Conclusion

Negative verbal feedback is highly prevalent in the Obstetrics and Gynaecology training in U.K. and causes lowering of morale, demotivation and has an adverse effect on performance. Females are more motivated and are more likely to try harder when faced with negative verbal feedback versus males. Males are more likely to show a drop in performance versus females. However no gender differences were found in their desire to leave the specialty when faced with negative verbal feedback.

THINK ALOUD PROTOCOL FOR ICU ROUNDS: AN ASSESSMENT OF INFORMATION ASSIMILATION AND RATIONAL THINKING AMONGST TRAINEES.

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Aims

Critical care rounds are often complex and baffling for the trainees. Sound knowledge of physiology and pharmacology as well as evidence based medicine is required. Often its application to a spectrum of information obtained from various interfaces (lab results, Xray findings, computer displays and ventilator mechanics) as well as a clinical examination (bedside assessment) can be tricky.

Methods

During the assessment of a patient each trainee will be assigned a different task, such as review of lab findings, X-ray interpretation, clinical examination and medication review. At the end of each task the trainee will be asked to verbalize their findings, describing their thought processes and picking up of abnormal findings. They will then be asked to summarize their findings and form a separate assessment of the patient. Each trainee will be given ten minutes to complete this task. This exercise will be repeated for each patient on rounds and clinical care and plans will be completed by the Consultant/ PI. An assessment of the think aloud performance for each trainee will be discussed with the Consultant at the end of rounds and peer review obtained by the group in the form of a 'focus group' session at the end. Peer review will also be obtained from the nurses and allied health professionals on rounds. Self-assessment will be part of the focus group assessment.

Results

In this exploratory study think aloud tools were applied to identify cognitive aspects of critical care practice and the learning of trainees. Through verbalizing their thought processes trainees were able to reflect the cognitive activities that they engage in as part of their decision making process. Cognitive assessment has been previously studied by Fackler et. al (Critical Care, 2009) to assess thought processes in ICU teams, as well as Cohen and colleagues in the ED to decrease errors in judgement. However, think aloud methods have so far not been utilized in this complex ICU setting where a majority of trainees may feel overwhelmed.

Conclusion

Our findings suggest that when prompted silent trainees on rounds can verbalize their thoughts into a logical framework and tie it to the patient's narrative; we also found that weaker trainees benefited the most by training them to flow their thoughts into speech and hence communicate better; surgeons may feel more introverted given the nature of their training (having to remain 'silent' in the operating theatre for many hours) and hence may benefit by allowing others to understand their thought processes; finally, we found that during normalcy the trainees experienced no problems however, during abnormalities their thinking was faster than their speech. Cognitive errors may occur at this time and team communication may break down when a team encounters a crisis or difficult situation.

PHOTO ELICITATION: A NOVEL QUALITATIVE METHOD IN MEDICAL EDUCATION RESEARCH

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Aims

Medical education research heavily relies on qualitative methods in order to bring insights into the complexities of the subject. While interviews, focus groups, and observations are widely used in the field, not many studies use visual methods in medical education inquiries. Based on experiences gained while studying the transition from classroom to clinical learning of LKC Medicine students, this presentation will introduce and critically assess the usefulness of photo elicitation for medical education research.

Methods

36 of the inaugural cohort of 54 LKC Medicine students agreed to take part in the study. Participants were asked to take two photographs per day in the period of 4-8th May 2015, one representing a positive experience and one representing a challenging experience. Each photograph was to be given a title and sent with a short caption explaining what the photograph represented. Photographs could not contain images of people, other than the participant themselves. Participants were not limited to photographs and could submit drawings, sketches, and images from the internet. The images were emailed to a specified, secure email address, and personal data was anonymised. The study was ethically approved by the IRB panel at Nanynang Technological University (NTU). Feedback was sought from the students about their experiences in using this method.

Results

19 students (53%) sent photographs during the specified 4 days, and of these, 5 students sent photographs every day. 92 images were received in total. Of these, only one "selfie" was received and 6 photographs of the participant taken by someone else. 11 clip art-style images were submitted, as well as one photograph of a drawing, and two screenshots of drawings in Paint.

Conclusion

A snapshot of the students' activities during the course of the week was captured, including their classroom and extra-curricular activities. The method provided an insight into the day to day lives of the students, through both the image itself and the descriptions provided. The data allowed understanding student perspectives, their views on their learning experiences, a deeper understanding of their friendship and family ties, and insights into their pastime activities. While allowing the participants themselves to be the guides of their experiences, the method was an excellent way to learn about unexpected aspects of life as a medical student. What is more, the images will serve as valuable platforms for discussion in follow-up interviews with the participants in the larger study to be carried out in August 2015.

ARE YOU A RED, GREEN OR AMBER?

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Aims

Under the ACGME-i competency framework, it is necessary for residents to complete their evaluations, case/procedure logs and duty hour reporting promptly. In the NHG-AHPL Orthopaedic Surgery residency program, the compliance of logging has been monitored since the program's establishment in 2011. It was observed that the first cohort of residents was unpunctual in completing these tasks. Using the COM-B model (Michie, Atkins & West 2014) as a starting point for intervention design, we hypothesised that the observed behaviour may be due to a lack of physical opportunity i.e. physical affordances and time. The 'Traffic Light System' (TLS) was thus implemented in the program to increase the prompt submission rates of evaluations and case logs by the residents. In the TLS, "Red" signifies poor compliance, "Amber" denotes modest compliance and "Green" indicates good compliance.

The performance of residents in their adherence to their tasks' recording was presented during the monthly/bimonthly meetings between the Program Director and residents. TLS markers for each resident will be displayed during the meetings. The use of the TLS enables users to do a quick evaluation of the behavioural outcomes and compliance rates.

Our aim of this study was to evaluate the effectiveness of the TLS.

Methods

Eight Orthopaedic Surgery residents from the 2011 cohort were included in this study. Residents' compliance for the tasks from 2011 to 2014 was monitored and recorded by the Program Coordinator (PC). On a monthly basis, the PC will compute the completion rate of the tasks in the respective portals where the records were collated. Data analysis was done by independent research investigators who were not part of the program. Descriptive statistics was used to summarise the data.

Results

The compliance of the residents in submitting logs was 37.5% in 2011 at their year of entry into the program. The compliance rate increased to 72.4% in 2012 when TLS was implemented. From 2012 to 2014, the compliance rates ranged between 60.6% and 96.3%.

Conclusion

The TLS was useful in its initial days as it provided the residents reminders to complete their tasks. However, stagnation soon occurred in the submission rate. In order to increase compliance, the program introduced the Warning Letter System (WLS) in 2014. Three red indicators led to a WL and 3 WLs led to a repeat posting. This led to 100% compliance. It was evident that automatic motivation was stimulated when compliance rates increased after implementation of WLS. Therefore we can conclude that desired behaviour change is not solely due to the provision of physical opportunity. In order to achieve the desired behaviours, the existing TLS had to address components such as social opportunity and psychological capability (fear of repeating through the WLS) to support behavioural change as mentioned in the COM-B model.

Nevertheless, the TLS was a good system to allow the program to track and identify residents with professionalism issues (i.e. punctuality).

References: Michie, S., Atkins, L., & West, R. (2014). The Behaviour Change Wheel: A Guide to Designing Interventions. Great Britain: Silverback Publishing.

CAN COMPASSION BE TAUGHT? A MEDICAL STUDENTS' COMPASSION DISCOURSE

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Aims

Universities of Brighton, Surrey and the Brighton & Sussex Medical School responded to a regional bid to provide compassion awareness training to the local health care workforce within the UK. The aim of the project was to cultivate compassion within the workforce through facilitation of a discourse around compassion that recognized and valued the contribution of self and colleagues towards compassionate practice in the workplace.

Methods

An appreciative inquiry methodology was used, an approach which recognises that everyday acts of compassion are occurring and need to be noted, celebrated and built upon. The research team developed a toolkit approach to support the 'train the trainers' model as evidence based toolkits were found to be important factors in enabling peer- educators to facilitate learning.

The design of the activities in the toolkit reflected the appreciative inquiry approach with activities centred on the following pillars. Appreciate (best of what has been), imagine (what might be), determine (what should be) and finally create (what will be).

Within the toolkit there were many resources one of which was focused on "Seek and celebrate" acts of compassion.

Following a cultivating compassion workshop at the local NHS Trust, a small group of medical students in their first clinical year decided to seek out acts of compassion occurring within an acute hospital setting over a 3 week period. Medical students witnessed and recorded these acts on a "Whatsapp" platform so that they could share with each other the acts that had been observed during the time period set.

Results

The witnessed acts of compassion were themed into those occurring within teams, towards patients, between peers and between patients. Examples of these acts will be presented. The medical students reflected that during the study they started a discourse within their group around what was the difference between acts of compassion and normal human behaviour. They also started to see the "hidden curriculum" of health professionals' behaviour in the workforce, realising the importance of compassion and yet the absence of that word within their own curriculum.

Conclusion

This small pilot study made it possible to consider how compassion can be taught within the medical undergraduate curriculum, simply by empowering students to open their eyes and witness compassionate acts that are occurring daily. The medical students were able to see behaviour that they wished to model and that the act of seeing and recording these behaviours made them feel part of a community of practice that would support them as junior doctors. This pilot study is being rolled out to include other healthcare students such as physiotherapists, occupational therapists and nursing students.

E-LEARNING - CONTINUOUS IMPROVEMENT PROGRAM - QUALITY OF CLINICAL ASSESSMENT TOOLS, TRACKING TOOLS, FEEDBACK USING IT.

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Aims

National Healthcare Group Polyclinics recognized a need for standardized training for all new Doctors. These are mainly from Doctors coming for their 6 monthly rotation postings or new doctors joining the organization.

The objective of the e-learning module was to ensure standardized information dissemination of practice standards to all new doctors.

This programme was first started in 2009 with 12 modules. It has since grown into a 17 module e-learning with 16 formative MCQ assessment to ensure learning.

Methods

The modules were mounted on Blackboard with audio-visual PowerPoint slides to accommodate different learner types. MCQs based post learning assessment is incorporated. Tracking system in place to ensure all learners complete the modules in the first 3 weeks of their posting. Their scores were collated and feedback was given to both learners and their supervisor. The supervisors would then go through areas of weakness identified via the MCQs. In a busy polyclinic setting, it was recognized that not all supervisor were able to follow through on giving feedback & addressing the gaps of the new doctors. Decision was made to convert the MCQs into a formative format, where explanation on the various options were given to enhance self-learning. This was started with 1 module in December 2012 and ultimately all topics by end of 2013. The format of obtaining feedback was improved with better adoption of IT to assist in collating feedback on the quality of the modules and MCQs. Initial feedback survey was only to participants. This has now been expanded to survey supervisors to better understand learner needs. Knowledge gaps of the new doctors were identified, addressed in a safe and constructive manner by the supervisors.

Results

1. Slow progressive improvement in the quality of the MCQs.
2. Safe empowerment of participants, acknowledgement & appreciation of constructive feedback on improvements in the MCQs & training modules.
3. Self-directed learning at learners own time.

Conclusion

1. In house e-learning is a constant evolution of updates and improvement in content, presentation, quality of formative assessment, quality of garnering appropriate feedback, adaptation of IT tools for easier collation of feedback.
2. Feedback from users encourages stake holders to produce & improve on the training materials.
3. The ability to create higher level scenario based MCQs remains a challenge.
   a) Finding protected time & sending interested key stake holders to proper MCQs writing courses remains a challenge.
   b) Need to have passionate drivers, platforms to present & cajole process owners to identify time & personal for such training
4. Adoption of IT tools to help facilitate learning & obtaining feedback. Improved skills in creating proper evaluation questionnaires.

BP14

THE EXPERIENCE OF AN APPRECIATIVE INQUIRY WORKSHOP FOR THE INNOVATION OF MONGOLIAN NATIONAL UNIVERSITY OF MEDICAL SCIENCES

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Aims

Mongolia is now facing rapid change of healthcare environment and new emerging needs. Mongolian National University of Medical Sciences (MNUMS) is the single national university for health professional education and biomedical research in Mongolia. Appreciative inquiry workshop was planned and implemented by the facilitators from Korea to create an effective system of education, research, and service of MNUMS.

Methods

Total 150 faculties, which are about the half of the faculties in MNUMS, participated in the 3-day workshop. Before the workshop, interviews of 96 faculties were conducted and the results were provided to the participants. The participants were divided into 15 groups and there was a co-facilitator in each group. The workshop process was followed by the four steps of appreciative inquiry: "Discovery - Dream - Design - Destiny". At the beginning, participants were asked to discover positive cores of the stories from the interview results. And then, the participants shared their dreams related to the University with all the other participants. The next step was to design what should be done within the University to realize their dreams. Finally, each group developed their action plan to pursue their destiny.

Results

The major themes of the action plan from each group were 1) changing the organization culture, 2) improving educational technology, 3) strengthening research capacity, 4) training for curriculum development, 5) evaluation of faculty performance, 6) renovating the institutional structure, 7) achieving financial independence, 8) promotion for faculties, 9) providing social welfare, 10) improving the student clerkship 11) strengthening faculty development, 12) improving postgraduate education, 13) renovating the campus, 14) reforming the medical license exam, 15) and strengthening the university hospital management system. The core appreciative inquiry team was designated to share the results of the workshop with all the faculties in MNUMS, and to spread and sustain the appreciative culture within the university. Several project teams were launched to implement the action plan.

Conclusion

The appreciative inquiry workshop in MNUMS showed a great possibility of the appreciative inquiry to successfully start the innovation of the whole university. The core appreciative inquiry team should continuously lead, support, and also monitor the innovation process until the final success.

DOES CLASSROOM-BASED CREW RESOURCE MANAGEMENT TRAINING HAVE AN EFFECT ON ATTITUDES BETWEEN DOCTORS AND NURSES?

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Aims

Crew Resource Management (CRM) training has become a common teaching method for healthcare organizations. It was first developed in the aviation industry to improve safety behaviors and minimize human error. Since it has high face validity, many healthcare organizations have adopted this training program to improve patient's safety. CRM focuses on teamwork, threat and error management, and interpersonal communication. The aims of this study is (1) to evaluate participant reactions and attitudes to CRM teamwork classroom-based training by comparing before and after the intervention of this training course; and (2) to explore potential differences in attitudes across the different healthcare professionals.

Methods

Between January 26 and March 27, 2015, a randomly selected sample of 240 healthcare professionals with direct patients care was recruited to undergo a 4-hour CRM classroom-based training program. The program was led by 2 CRM certified instructors and it primarily divided into five main parts which were as follows: (1) Introduction; (2) Leadership; (3) Communication; (4) Assertiveness; and (5) Situational Awareness. Each part was specially designed to suit the needs of the hospital and each part included a lecture followed by various games, videos and open discussion. Participants were asked to complete a 22-item Human Factors Attitude Survey (HFAS) before and after training and a 10-item end-of-course evaluation. Paired sample t tests was used to assess differences between the participants' pretest and posttest scores on each item. The training took place in Multidisciplinary Simulation and Skills Centre at Queen Elizabeth Hospital, Hong Kong.

Results

A total of 167 (70%) from 17 specialists underwent classroom-based training and 164 (68.3%) completed (139 nurses, 25 doctors) the HFAS and end-of-course evaluation. Nurses were of similar age to doctors (38.2 vs 36.9; P=0.83) and were more likely to be women (75.6% vs 24.6%, P<0.001). HFAS findings indicated that nurses valued the experience highly compared to doctors. Except for 2 items, HFAS responses among the nurses revealed a significant attitude shifts (P<0.05) towards leadership, teamwork, decision making, communication, feedback, situational awareness and assertiveness. On the other hand, HFAS results indicated pre-existing positive attitudes to leadership, decision making, and communication among doctors and only 9-items revealed a significant attitude shift (P<0.05). The overall mean scores of usefulness, relevance of training, and patient safety enhancement, on a Likert Scale from 1 to 5, were 4.02±0.61, 4.06±0.68, and 4.06±0.65 respectively.

Conclusion

Overall, the CRM classroom-based training program appeared to have a positive effect on healthcare professionals' attitudes toward the leadership, communication, situational awareness, assertiveness and teamwork. The implementation of such program is feasible and acceptable, especially to nurses, in a public hospital setting in Hong Kong.

DEVELOPING AND EVALUATING EFFECTIVE TEACHING USING RESIDENT-RUN WORKSHOPS

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Aims

We hypothesized that Senior Residents (SRs) can organize and teach a course on Respiratory and Critical Care topics effectively to a target audience of peers and junior residents. We anticipated that giving SRs complete autonomy would allow experiential learning in the various aspects of effective teaching. This teaching model allowed us to develop and assess SRs teaching competency.

Methods

Six post-graduate year 4-5 (PGY 4-5) SRs, guided by a Chief Resident and a key journal article, were empowered by the Head of Division and Program Director to create, organize and conduct a one-day Respiratory and Critical Care Medicine workshop to teach other residents, which included peers and junior residents (PGY1-3) from all medical and surgical specialties in our hospital. Six months before the workshop, the SRs had to independently decide on the range of topics that would meet the needs of their participants. The SR clinical schedule did not dedicate off-service time for workshop preparation. Faculty members could only be involved in any rehearsals that SRs conducted for the workshop, hence little faculty time was committed. The workshop was self-funded through the collection of a small fee (~USD50) from each participant, who signed up voluntarily.

Results

The SRs held the first Respiratory and Intensive Care for reSidents (RISE) workshop in October 2013, which attracted 36 participants. They selected relevant and interesting topics (airway management, central line cannulation, hemodynamic monitoring and critical care echocardiography), successfully organized their lesson logistics and delivered effective teaching. Participants were uniformly satisfied with the workshop. They did medical knowledge tests immediately before and after the workshop, and demonstrated a significant increase in scores (pre-test mean $\pm$ SD 7.0 $\pm$ 3.5; post-test mean 17.2 $\pm$ 2.1, p-value <0.01). Global evaluation of effective teaching could thus be inferred. On the other hand, the SRs felt that holding the workshop honed their teaching skills, increased their confidence in teaching, and inspired them to be future clinician-educators. In a pre and post workshop survey, SR confidence score in teaching were (pre-test median 8, IQR 8-9; post-test 9, IQR 8-9, p-value>0.2). All instructors indicated that they would volunteer to teach and would recommend their peers to participate as instructors at subsequent courses.

Conclusion

Developing competency in teaching is essential in the growth of trainee physicians as future clinical educators. Effective teaching requires a multifaceted skill-set, which involves content preparation, clear delivery of learning points, achievement of learning objectives and participants gaining knowledge or skill. However, few tools exist to simultaneously develop and assess the global effectiveness of senior residents (SR) as teachers.

Resident-run workshops are a viable method to develop and globally assess effective teaching by SRs. They present a valuable opportunity for SRs to rapidly ascend the ladder of competency in teaching. We intend to allow our SRs the chance to conduct these workshops annually, and we believe that this model can be fruitfully applied to numerous other settings.

PATIENT SAFETY IN SURGICAL EDUCATION (PASSED): A PILOT STUDY USING IPAD GAME TO TEACH PATIENT SAFETY IN UNDERGRADUATE MEDICAL CURRICULUM.

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Aims

Patient safety involves knowledge and skills that are integrated in all areas of medicine and it requires good communications among healthcare workers and effective system management. We created an innovative iPad game to train medical students on the concepts of patient safety in Singapore. This study aims to evaluate the initial outcome of this game in teaching patient safety in undergraduate medical curriculum.

Methods

A 10-scenario interactive iPad game was created by the Undergraduate Education Team in the Department of Surgery, Yong Loo Lin School of Medicine, National University of Singapore. We named this PAtient Safety in Surgical EDucation (PASSED). The scenarios explored the concepts of patient safety in 3 main areas: Group A: Interpretation of critical investigation results; Group B: Identifying correct tools and equipment in administering critical medications; Group C: Prioritization of multiple tasks or communications with healthcare workers in critical situations. A group of 53 Phase III medical students, who were doing Surgery rotation, attended the patient safety teaching. They played the game for 30 minutes and their response was studied in details.

Results

The median score of this cohort was 27 (9 - 41). In Group A, about two-third (41.5%) of the students missed the pneumoperitoneum on abdominal X-ray (after 2 attempts) in Scenario 1. However, Four out of five (81.1%) students were able to detect the misplaced Ryles tube into the right bronchus on 1st attempt in Scenario 4 and identify the hyperkalaemic changes on ECG (84.9%) in Scenario 6.

In Group B, 51.0% of students selected the correct test to check placement of Ryles tube in Scenario 2. In Scenario 5(A) & 5(B), majority of students answered correctly on the choice of intravenous fluid for resuscitation and 96.3% was able to select the appropriate volume and rate of administering the fluid. However, in Scenario 9, 11.3% failed to choose the correct type of insulin used in correcting hyperkalaemia (9A), 37.8% chose the wrong syringe to draw the Actrapid insulin (9B), 32.1% chose the wrong volume (9C), 51.9% administered wrongly on 1st attempt (9D) and one-quarter (24.5%) chose the arm with arteriovenous fistula for dialysis to administer the medications (9E). In Group C (multi-task prioritization or communications) Scenario 5(C), all students except one (96.2%) answered correctly on nursing staff trigger call question. When asked to prioritize 4 tasks simultaneously, 86.8% were able to select the correct order at 1st attempt in Scenario 7. Subsequently, in Scenario 8, 96.2% responded correctly in a Call Center informing critical lab result situation and finally, all the students (100%) reacted appropriately when they received an SMS informing an abnormal critical radiology report in Scenario 10.

Conclusion

In this pilot study, medical students were good at basic communications with other healthcare workers and prioritization of multiple tasks. Likewise, they performed well at interpretation of critical investigation results. However, students did poorly when specific practical knowledge on instruments and administration of medications was evaluated. This unique teaching pedagogy using interactive gaming system can help identify gaps in patient safety training.

MOULAGE FOR MEDICAL SIMULATION: BUDGET GAP? BRIDGE IT!

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Aims

When it comes to moulage for mannequins and simulators, many articles and products have emerged over the years, marketing their realism and innovation towards a better simulated experience. Experience with use of moulage on standardized patients however, varies from center to center. Many commercial moulage products for this purpose are also available on the market. We present the perspective of a standardized patient educator in the realm of moulage, with a focus on areas of feasibility, ease, safety, sustainability and affordability.

Methods

The barriers to using commercial products include cost and the delay on freight of materials from overseas. This has further impact on the trial period before the actual moulage run where trials have to be carried out on the mannequin skin, to ensure a realistic effect, ensuring that it stays where it should be and can be removed without residual effect to the artificial skin. Trials on the human skin of standardized patients are also in place to look out for adverse reaction, tolerance, adherence, reapplication and residual effect to ensure safety and comfort of the standardized patient.

In order to circumvent these problems, our program has explored the use of everyday items to use in moulage to create the desired effect, adding to the fidelity of simulation sessions. These include using school grade liquid glue to age the skin, blusher and eye shadow coloring to enhance loss of weight, shreds of cotton to create wounds, expired biscuits and food coloring to prepare bodily excretion, among others.

Results

These items, paired with proper application techniques, have been used to great success and satisfaction and have been well-tolerated by our standardized patients. Using common household materials allows our standardized patients to identify products that may cause intolerance or adverse reactions, if any. The SP is also made aware of what is applied to their skin, increasing comfort and trust in the process. We have also found that using these techniques, the moulage is easy to remove with inexpensive body lotion or simply water.

Conclusion

We strive to make simulation moulage realistic with easily accessible products. This helps to make moulage available to anyone in any institution. It also brings down the cost and maximizes the experience.

EXPLORING RESIDENTS' EXPERIENCE AND IMPACT OF A HYBRID METHOD OF HIGH FIDELITY SIMULATION

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Aims

High fidelity simulation is a regular and valued component of our paediatric residency training. The use of standardized patients (SPs) in simulation is a relatively new concept in the field and is likely to increase resident "buy-in" during the scenario. Regular involvement SPs in simulation may therefore enhance experiential learning. The aim of this study was to explore paediatric residents' perceptions and experience following the use of an SP in a high fidelity simulation scenario as well as the impact it has on their learning using focus group interviews.

Methods

2 semi-structured focus group interviews were conducted with eight residents from a tertiary hospital Paediatric Residency Programme. The interviews addressed performance, experienced emotions, learning and reactions to the SP. Themes were identified using framework analysis driven by qualitative methods. Residents also self-reported their emotional levels using a visual analogue scale and correlated their degree of learning versus emotional activation on a Four Quadrant model relating phases of learning to emotions.

Results

Data analysis revealed that hybrid simulation with the presence of an SP provided a strongly positive learning experience. The main themes identified were that of heightened realism, practice of effective communication with a distressed parent and strong emotional involvement with the scenario. Residents perceived the strengths of this method to be in the areas of communication and crisis resource management rather than acquiring clinical knowledge alone. Other benefits related to the benefits of simulation in general such as a safe environment to make mistakes and to experience a novel clinical situation with an opportunity to explore their own perceptions and boundaries. The residents reported no negative impact on their psyche or learning in this process.

Some concerns that emerged from the interviews included competing learning objectives as well as the impairment of clinical judgement by the presence of an emotional parent. We compared the learning points that the residents articulated at the time of the interviews with the original learning objectives of the simulation case and found that the main take-away from this experience was communication with a distressed parent. Although 3 residents out of 8 did mention learning about management of the case, many other crisis resource management issues were mentioned. The level of distraction on the visual analog scale was a mean of 5.1/10 and distress was 4.3/10. Level of engagement was rated a mean of 8.3/10. All residents felt that they were functioning in the positive effect, constructive learning quadrant.

Conclusion

High fidelity simulation with the presence of an SP is a powerful tool in the range of simulation-based teaching available. The increased realism results in strong engagement and constructive learning. This tool is likely to be most effective in enhancing teamwork, communication skills and crisis resource management in the presence of clear learning objectives for the simulation session. This data suggests a wider programme involving this hybrid method interspersed with conventional simulation teaching may provide residents with a more comprehensive paediatric learning experience.

BP20

CAN WE REALLY TEACH DIAGNOSTIC REASONING TO NAIVE MEDICAL STUDENTS?

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Aims

To understand, evaluate and follow up on medical students' retention, practice and application of structured reflective practice (SRP) in diagnostic reasoning introduced during their first clerkship year.

Methods

In their first clerkship year, Yong Loo Lin School of Medicine (YLLSOM) students rotated through the Division of Respiratory & Critical Care Medicine (RCCM) during their Medicine posting in National University Hospital (NUH) from June 2014 to April 2015. These students rotated sequentially in groups of 3 and each rotation lasted 2 months. At the start of each RCCM rotation, these students were given a short briefing on the principles of diagnostic reasoning. Each was given a one-page handout detailing the framework and steps to SRP and was encouraged to apply the practice framework to every case that they encounter. At the end of the academic year, a simple 4-question survey was sent to the students via email. These questions were designed to enquire if they remembered the SRP method and if they practiced it. The questions are namely, (1) "Do you still remember the Structured Reflection method which was introduced to improve your clinical reasoning during your Respiratory Medicine posting in NUH Medicine?", (2) "Did you use the Structured Reflection method of learning during your RCCM posting?", (3) "Did you continue to use this after your RCCM rotation up to present time?" and (4) "Did this method help you improve your clinical reasoning skills and were there any advantages or disadvantages over your other learning methods?".

Results

We report on the 10 responses from the first 12 (83%) students. For question 1, 6 (60%) students remembered the SRP framework whilst 1 (10%) did not remember and 3 (30%) were unsure. For question 2, 8 (80%) students used the SRP method either occasionally or often during their RCCM rotation whilst 2 (20%) never or rarely used this method. For question 3, 7 (70%) students reported that they either occasionally or often continued to use the SRP method up to time of survey. Three (30%) never or rarely used this method. The free-text comments in response to question 4 were positive and encouraging. All 10 students agreed that the SRP method helped improve their reasoning skills and the framework was useful for them as junior medical students.

Conclusion

The SRP method formed a useful framework for junior medical students to organize their reasoning processes. This has made them deliberately evaluate each key clinical feature systematically via discrete structured reflective steps. Additionally, despite a very low intensity intervention at the start of the clerkship, the majority of students could accurately recall this method at the end of the academic year, without any reinforcement. What is even more noteworthy is that 70% of students reported that they occasionally or often used the SRP method long after they have completed their first clinical rotation. We believe that this SRP method may be a cost effective strategy to promote enduring diagnostic reasoning skills in medical students.

Reference: Mamede S et al. JAMA 2010;304(11):1198-203

SLEEP, ACTIVITY AND FATIGUE REPORTED BY POST-GRADUATE YEAR 1(PGY1) RESIDENTS - A PROSPECTIVE COHORT STUDY COMPARING EFFECTS OF NIGHT-FLOAT VERSUS TRADITIONAL ON-CALL

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Aims

To determine if there were any differences in sleep, activity and fatigue as reported by PGY1 residents working in a night-float system versus the traditional on-call system in our hospital.

Methods

All PGY-1 residents at the National University Hospital of Singapore were invited to participate. The target recruitment was 60 first-year residents. Residents either work a night-float system, where they work 5 consecutive nights a week(~ once every 2 months), or an on-call rota(~4-6 on-calls per month). Participants were required to wear a wrist actigraph for a period of 4 months. This records daily activity(number of steps taken and how vigorous this activity is), sleep duration, sleep latency(time taken to fall asleep) and sleep efficiency(at least 85% of non-restless sleep). In addition, participants completed 2 questionnaires, the ProQoL(Professional Quality of Life) Instrument and the Epworth Sleepiness Scale(ESS), at the beginning and end of the study. ESS scores of 10 and above suggest excessive daytime sleepiness.

Results

41 residents were recruited. Residents on night float averaged similar number of steps as those on the on-call rota; median(range) daily steps 10061 (1195-15923) vs 10649 (308-21910)(p=0.369). The duration of vigorous and moderate activity per day was also similar in both groups (22.5 vs 24 minutes, p =0.582, 110.5 vs 108 minutes, p=0.506, respectively).

The median (range) amount of sleep residents log post-float or post on-call was similar; 361 (149-630) vs 380 (175-484) minutes(p=0.429), as was the median (range) time taken to fall asleep; 6 (0-14) vs 6(0-45) minutes. However, residents on night-float appeared to have less efficient sleep, with 9.5% having < 85% sleep efficiency compared to 0% in the on-call group, although this difference was not statistically significant (p=0.127).

At the beginning of the study, 73.8 % of residents doing night-float reported an ESS>10 compared to 38.5% of those doing on-calls(p=0.079). This was similar to the end of study ESS where 50% of residents doing night-float report an ESS>10 versus 14.4% of those doing on-calls (p=0.103). A larger percentage of residents doing the night-float also subjectively reported a higher burnout score (41.4% vs 21.4%), although this difference was not statistically significant (p=0.308).

Conclusion

Our study demonstrated that the physical activity (steps taken and duration of vigorous activity) during work hours and duration of sleep for residents were similar, whether they were doing the night-float or the on-call rota. However, residents post night-float could be at risk of less efficient sleep. In addition, residents on the night-float system subjectively reported higher fatigue scores on the ESS, as well as a trend to higher burnout scores on the ProQoL.

A QUANTITATIVE ANALYSIS OF ACTIVITY AND FATIGUE WITHIN POST-GRADUATE YEAR 1 (PGY1) RESIDENTS IN OUR HOSPITAL COMPARED TO FACULTY MEMBERS- A PROSPECTIVE COHORT STUDY

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Aims

To compare the difference in activity levels, sleep, fatigue and professional quality of life between PGY1 residents working versus faculty in our hospital.

Methods

All PGY1 residents and (medical/ paediatric) faculty at the National University Hospital of Singapore were invited to participate. The target recruitment was 60 first-year residents and 20 faculty members. Participants were required to wear a wrist actigraph for a period of 4 months, as well as complete 2 surveys, the Epworth Sleepiness Scale (ESS) and the Professional Quality of Life (ProQoL), one of each at the start and end of the 4-month period. Residents work on an on-call rota (~4-6 on-calls per month), or work 5 nights a week for the night float system (~ once every 2 months), depending on which department they are posted to. The faculty predominantly do stay-home on-calls. The wrist actigraph records daily activity level (number of steps taken and how vigorous this activity is) and sleep. ESS scores of 10 and above suggest excessive daytime sleepiness.

Results

49 PGY1 residents and 14 faculty members were recruited. Over the study period, residents and faculty logged 904 and 989 daily activity logs respectively, and 321 and 604 sleep logs respectively.

Compared to faculty, residents logged less sleep in a working day; median(range) daily sleep of 356(114-630) versus 393(162-704) minutes(p=0.001). Residents had decreased sleep latency, with a shorter median time to fall asleep (6 vs 7 minutes, p=0.001). Sleep efficiency was similar for both, being greater than 85% in 98.4% of residents and 98.7% of faculty.

PGY1 residents were more physically active compared to faculty; walking a higher median (range) number of steps daily; 10207.5(280-26638) versus 8155(481-31236), p=0.001, and logging more vigorous or moderately vigorous activity(26 versus 19 minutes, 95 versus 70 minutes, respectively, p=0.001).

The ESS survey showed that residents reported higher daytime sleepiness (ESS > 10) compared to faculty at both time points; 61.5% vs 30% (p= 0.09) and 66.7% vs 44.4% (p=0.68). Residents also reported higher burnout scores compared to faculty at both time points; 34.9% versus 0%, (p=0.024) and 23.1% vs 0% (p=0.304), and a larger number reported lower compassion satisfaction scores; 25.6 vs 0% (p=0.095), and 37% vs 0% (p=0.039).

Conclusion

First year residents are more active at work and sleep less compared to faculty members. They are also at risk of greater fatigue, burnout and experience less compassion satisfaction. Measures need to be taken and skills taught, to help these residents cope with the rigours of work and training, and to develop and maintain positive feelings about work (compassion satisfaction) in order to protect them from the ill effects of fatigue and burnout.

BP23

HOW HAS MEDICINE ELECTIVE POSTING CHANGED STUDENT'S PERCEPTION ON ACUTE MEDICINE

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Aims

Graduate medical education in Singapore has transformed into a structured residency program. It is crucial that all postgraduate year one (PGY1) residents are competent and confident in managing acutely ill patients regardless of discipline. The aim of this survey was to determine undergraduate exposure and teaching in Acute Medicine, self-perceived knowledge of acute medical conditions and finally procedural skills before and after their Electives in Internal Medicine Posting.

Methods

35 Year 4 Medical students of National University of Singapore who choose medical posting as their elective responded to a written survey regarding their experience in this rotation. The survey was distributed before and after their elective postings. A 5- point Likert scale was used to rate challenging medical specialties in medicine, perceived knowledge in acute medical emergencies, confidence in assessment of the acutely ill patient and confidence in performing practical medical procedures.

Results

Pre posting 43% considered acute medicine as career and 40% were neutral. Post posting there was increment to 64% and 31% respectively. The pre and post survey did not show any significant increase in exposure to acute medicine and it might be due to the short posting of only 3 weeks. Most challenging specialties are gastroenterology (mean score 4.45, SD 0.70) followed by nephrology (mean score 4.2, SD 0.67). There is a significant increase in knowledge of acute medicine emergencies like myocardial infarction and stroke. Students are least confident in the management of Drug overdose (mean score=2.48, SD 0.78) and alcoholic liver disease (mean score=2.83, SD 0.81). The confidence in the assessment of Airway, Breathing and Circulation significantly increased post posting with Mean 3.70, SD 0.74; P= 0.007, P<0.05.

The Confidence levels of students recognizing and managing acute medical conditions is low with mean score of 3.0 (S.D 0.8) and 3.2 (0.6) respectively with P=0.44 pre and post postings. There is no difference in their confidence of performing general medical procedures like intravenous cannulation and arterial blood gas before and after this rotation The students were most confident in venepuncture (mean score =4.0, SD 0.64) and least in fluid and drug prescription (mean 2.48, SD 0.88).

The student's interpretation of investigations improved significantly post posting with P= 0.03, <0.05). They were most confident in Chest Xrays (mean score 3.62, SD 0.59) and least in Abdominal Xrays (mean score 3.37, SD 0.59).

Conclusion

The short 3 week posting enabled students to reconsider acute medicine as a career choice and understand its importance. The same duration led to insignificant improvement in their confidence levels in both recognizing and managing acute medical issues. However, their knowledge in acute medical emergencies and investigations interpretation significantly increased for the similar duration.

Take home Message:

The elective acute medicine posting should be longer for students to gain more practical and application skills. Hopefully in final year, they would have more acute medicine exposure.

BP24

A DISTANCE LEARNING HYBRID MODEL FOR MEDICAL EDUCATION: A CASE STUDY FROM OCEANIA UNIVERSITY OF MEDICINE

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Aims

1. To bring medical education to those bound by distance, personal, and professional barriers.
2. To increase the number of physicians in Samoa and the South Pacific region.
3. To improve the health and healthcare in the Samoa and the South Pacific region.

Methods

Developed by American medical educators, the 96-week preclinical curriculum is taught live online in a Blackboard Collaborate classroom by US-based faculty members. Students benefit from regular online contact with Academic Advisers, as well as weekly personal meetings with Physician Mentors in the student's community.

 In addition to required course work, students participate in such extracurricular activities as Journal Club, Case of the Week, Grand Rounds, Research Club, and OUM Student Association.

Students access their texts and journal articles via OUM's online library, primarily supplied by Elsevier's Clinical Key product.

Preclinical students are evaluated with weekly formative quizzes and summative end-of-module examinations, which are proctored using the camera and microphone of the student's computer.

Clinical students may rotate at Samoa's National & Teaching Hospital, Tupua Tamasese Meaole, or at teaching hospitals in Australia, India, New Zealand, or USA. In order to ensure that clinical learning objectives are being met, students attend online lectures and are assigned readings, which are examined at the end of each clinical module.

As students complete 72 weeks of rotations, they either sit the USMLE or an internal Final Clinical Exam, which includes multiple choice questions and a 15-station OSCE.

Results

1) First accredited by the Philippine Accrediting Association of Schools, Colleges and Universities in 2010 and re-accredited in 2015, OUM has 170 students residing in 10 countries. Half are nurses and nurse practitioners, and the remainder are mid-career professionals in healthcare, business, and other professions. The average student is 40.5 years old, and the student body ranges from 22 to 62 years of age.
2) OUM's 66 graduates are practicing or undertaking post-graduate training in Australia, Canada, Fiji, New Zealand, Samoa, and the United States.
3) OUM graduates now comprise 10 percent of Samoa's physician workforce with additional contributions in coming years. Six American Samoans are on scholarship to become physicians.

4) A school-wide community outreach program screened 5,000 Samoans who were without healthcare, and 6% were referred for previously undetected illnesses.

5) The University is working with the American Samoa Department of Health to develop a community-based diabetes screening and monitoring program.

6) Graduates have little difficulty passing such licensure registration exams as the Australian Medical Council Examination or the New Zealand Registration Examination. US graduates are competitive for residency match, and graduates in other countries are getting internships.

Conclusion

This partnership between an American educational software corporation and the Government of Samoa provided scholarships for Samoan and other South Pacific islanders while creating new opportunities for working healthcare professionals in Australia, New Zealand, and North America. The regulatory environment has improved during OUM's 13-year history, which originally was biased against distance learning. Graduates are being registered or licensed to practice in their choice of locations.

BP25

EVOLUTION OF A MODIFIED OSCE AS A FORMATIVE ASSESSMENT TOOL IN UNDERGRADUATE ORTHOPAEDICS

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Aims

Clinical competencies in Orthopaedics used to be assessed in a ward-based setting using Long Case/Short Case format that was usually non-standardized and unstructured. Students were given variable time duration for patient clerking and depth of content for subsequent case discussion was assessed with different expectation by different assessors. In addition, students were left unobserved during patient clerking, hence professionalism and communication skills could not be assessed objectively. Due to these drawbacks, OSCE was introduced since 2010 in the undergraduate Orthopaedics curriculum. Since then, several phases of development have been carried out on the OSCE structure and design, evolving into a structured OSCE assessment blueprint. We present our innovative approach to a modified OSCE structure for undergraduate Orthopaedics end-of-posting test (EOPT).

Methods

From 2010 to date, approximately 250-300 students per academic year are assessed. Each year, the Department conducts 5 rounds of EOPT in an OSCE format, i.e. 50-60 students are assessed during each round of OSCE consisting of 5 stations. Question templates are developed over a period of time to constructively assess history taking skills and clinical examination skills, leading to discussion on approach to basic management of common orthopaedics conditions. These question templates are prepared by designated item-writers, subsequently reviewed by the Undergraduate Director and vetted by the respective station lead examiners. Simulated patients are trained by the item-writer and standardized by the examiners prior to the exam. Also, examiners standardize their approach to questioning, prompting of students, marking and setting pass/fail criteria within their respective station. Examiner feedbacks on exam conduct are collected for every EOPT OSCE. Annual review on these feedbacks acts as reference point for each phase of development in the OSCE structure and design.

Results

Through the years, we observe that the Orthopaedics EOPT OSCE structure and design has evolved to encompass all levels of assessment illustrated on Miller's pyramid of clinical competence in accordance with the intended learning outcomes for an undergraduate Orthopaedics curriculum. The development of its structure and design is summarized in phases. An example blueprint of a modified OSCE assessment developed and currently used is also illustrated. This blueprint indicates the coverage of competency area adapted from the ACGME competencies and key focuses (e.g. history taking, physical examination, interpretation of investigations and management discussion) for each station.

Conclusion

The evolution of Orthopaedics EOPT OSCE structure and design in the last 5 years showed that the modified OSCE assesses medical students in a more comprehensive manner. It assesses not only the 'Shows how' but all other levels of clinical competency on Miller's pyramid. This is believed to encourage a more holistic approach to learning medicine by combining acquired knowledge with clinical skills.

BP26

THE IMPLEMENTATION OF CATARACT SIMULATOR TO IMPROVE JUNIOR OPHTHALMOLOGY RESIDENTS' CONFIDENCE IN CATARACT TRAINING

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Aims

To evaluate the performance of the SNEC Ophthalmology residents' on the Eyesi Cataract Simulator (VRmagic, GmbH, Mannheim, Germany).

To evaluate the residents' feedback on the usefulness of the Eyesi Simulator in improving their confidence in the phacoemulsification surgeries.

Methods

Ten junior Ophthalmology residents from Singapore National Eye Centre were recruited to undergo cataract simulator training using Eyesi Cataract Simulator (VRmagic, GmbH, Mannheim, Germany). The individual's number of the attempts, scores and time taken to complete were recorded. A satisfaction questionnaire via a 5-point likert scale about the effectiveness of the simulator to improve their confidence in phacoemulsification surgeries was also administered.

Results

The mean age of the residents was 28.9 ± 1.7. Of whom, 70% were year one residents' with 30% year two residents', and 30% were male. Navigation skills, intracapsular navigation and forceps training modules were rated most useful among the training modules. Most residents (90%, n=9) agreed that the simulator helps improve instrument handling under microscope, hand/eye coordination and foot pedal coordination. However, 50% and 30% of residents' did not find anti-tremor training, and depth judgement training respectively, improved their confidence in cataract surgeries.

The overall mean score, time taken and number of attempts per module were 61.2, 86.3s and 4.9, respectively. This was comparable to scores from other studies performed in the United Kingdom and Sweden, with no significant difference found.

Year 2 residents had significantly better mean task scores (67.8 vs 58.7, p < 0.001) and shorter times (66.2s vs 75.5s, p=0.002) than Year 1 residents.

Overall, 90% of the residents agreed that the simulator improved their confidence in performing phacoemulsification.

Conclusion

Our residents' had comparable results on the Eyesi cataract simulator with no significant difference compared to other countries.

Year two Ophthalmology residents also performed better than year one residents on cataract simulator training.

The use of cataract simulator has been shown to be useful to improve the confidence levels of junior Ophthalmology residents in hand/eye coordination, instrument handling under microscope, and foot pedal coordination.

SELF-REPORTED ACADEMIC MISCONDUCT AMONG MEDICAL STUDENTS: A CROSS SECTIONAL STUDY AT A COLLEGE OF MEDICINE, SAUDI ARABIA

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Aims

The academic fraud and cheating have become outstretched behaviors among many university students all over the world and the health education is not an exception, despite what has been done to prevent them. There are many studies have investigated such issue but little efforts have been taken on studying such an important issue of dishonesty behavior in the Middle East universities. This study was initiated to determine the prevalence, motivations, and factors that can lead to increase academic misconduct among medical students and the ways of prevention among the medical students, at a college of Medicine, Saudi Arabia.

Methods

This is a quantitative cross-sectional self-administered questionnaire based study. The study was conducted at a governmental Medical College, during June and July 2015.The study populations were the medical students of fourth, fifth and recently graduated internship year candidates. A validated scenario based questionnaire was adapted from a previous published study. It includes three sections about demographic information, students' behavior and their attitude towards misconducts based on different scenarios. The scenarios are related to plagiarism, cheating, and lying. It tested whether the students will agree or disagree with that behavior, and if they consider doing the same attitude themselves. In addition to that in the section three, the students were asked whether if they have ever cheated or not, during their academic years, and to justify their behaviors through selecting multiple choices. The collected data were analyzed using Statistical Package for Social Sciences (SPSS), version 21. The study was approved by the ethical committee of the College of Medicine.

Results

The number of participants in our study was 421 out of 720, with the response rate of 58.5%. Among them, 129 (30.6%) participants were from the fourth year, 152 (36%) from the fifth year, and 140 (33.2%) participants were from the internship period.The results showed that over all misconduct behaviors practiced by the participants were 29%, among them male participants were (34.2%) more than female students (21.3%) and the results were statistically significant (p- value =005). The participants with a high GPA (4.50 -5) were the least to cheat (22%) while those with lower GPA, have the greater chance of cheating, and the results were statistically significant (p-value =0. 011). Participants who were living with their families were more likely to cheat 31% (119/385) comparing to 13.9% (5/36) of those were living in the university hostels or with their friends, but the results were not statistically significant. The participants who have admitted that they have cheated, justify their cheating behavior with various reasons. Most of them attributed this act to get better grades (24.6%), to pass the course (21.6%) or they were not fully prepared for the examinations (17.9%).

Conclusion

The study showed that about one third of the participants were involved in misconduct behaviors, which is really alarming situation. Male students were more to be involved than the female students. Although, the participants students could justify their acts of misconducts, but they have recognized these acts as misconducts.

BP28

THE STRESS OF PRECEPTORS WHO INVOLVED IN POST-GRADUATE TRAINING IN TAIWAN

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Aims

The Ministry of Health and Welfare (MOHW) in Taiwan initiated a post-graduate clinical training program for healthcare providers and The Joint Commission of Taiwan (JCT) was committed to implement the program from 2007. The post-graduate training program is to connect the clinical education between school education and post-graduation. Senior healthcare providers in teaching hospitals are the preceptors of post-graduate trainee. As a healthcare provider and a preceptor there are different stress, loadings and mission when play these roles. This study focused on the stress of these preceptors.

Methods

We administered an anonymous structured questionnaire. The questionnaire included: teaching style, type of stress, strategies facing stress, and teaching satisfaction of self. The participants of our surveys are preceptors such as nurse, pharmacist, and radiological technologist in teaching hospitals who joined teacher's workshop in 2014.

Results

Total respondents were 212 preceptors. The most two teaching style of respondents is facilitator (73.1%) and personal model (56.2%). Top three reasons that made preceptors middle-heavy stress were preparing for hospital accreditation (70.8%), huge teaching loading (40.6%), and less correlation between teaching outcomes and job promotion (27.8%). When faced teaching stress or problems, most preceptors try hard to take next action (87.6%), try to looking the bright site of problems (85.2%), or get along with problem (78.7%). Finally, almost half preceptors perceived their performance on teaching is normal (47.9%) and more than the percentage of satisfied (46.9%).

Conclusion

According to other survey and laboratory measurement, high stress is not good for health and performance. Providing healthcare and teaching induced stress to preceptors. MOHW took best to simplify hospital accreditation procedure and JCT try to helping preceptors release stress. Besides, MOHW and JCT ask teaching hospital to make effort to improve teaching environment for preceptors. We hope to build a post-graduate clinical system that junior healthcare providers can get a better training. And it will improve the quality of healthcare in Taiwan.

BP29

SIMPLE BUT EFFECTIVE: LEARNING ANATOMY BY COLOURING

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Aims

As anatomy is a visual science, use of illustrations is vital for students' understanding of the human body structures. It is also a content-rich subject; therefore, learning anatomy is often a difficult task for students. In teaching of anatomy to allied health students, students' own coloured illustrations were integrated in order to reinforce their learning and help them in remembering the facts. A study was conducted to determine the effectiveness of colouring practice in learning of anatomy.

Methods

A single group quasi-experimental before and after study design was used. During the first half of the semester, illustrations from the textbooks were used in teaching of anatomy to year 1 allied health students of diagnostic radiography and radiation therapy (academic year 2014/15) from School of Health Sciences, Nanyang Polytechnic, Singapore.

During the second half of the semester, students were directed to colour illustrations from the anatomical workbook. The illustrations were focused on the organization and relationships of the major structures of the human body. The students incorporated their coloured illustrations into their study. The effectiveness of colouring practice was measured quantitatively and qualitatively. The test scores of before and after the colouring practice was compared by the paired t test. An online survey using Google Forms was conducted to determine the students' colouring practice and their perceptions towards it.

Results

There were a total of 56 students in this cohort and 45 students (86%) participated in the online survey. Almost all of the respondents (98%) practised colouring of anatomical illustrations and 84% agreed that colouring facilitated their learning of anatomy. Regarding how colouring helped their learning, 67% mentioned that it made them visual associations with key terminology, 47% said that it helped them in memorizing anatomical structures, 38% felt that learning became easy and fun and 33% commented that they can assimilate information while engaging in kinaesthetic learning. Free comments included "good additional teaching platform to better visualization of anatomical structures and landmarks", "facilitate further understanding", "colouring helps in differentiating anatomical structures which look like similar, for example, groups of muscles", and " colouring is good in differentiating between arteries, veins and nerves". On the other hand, few students were concerned of time spent for colouring. The mean test score of 56 students after the practice of colouring was significantly higher than that of before the practice of colouring ($p < 0.0001$).

Conclusion

Although there may be some confounding variables, the study clearly demonstrated positive impacts of colouring in enhancing students' understanding of the human anatomy. It is particularly effective for visual learners who can form mental images and learn the materials more easily. It is also suitable for kinaesthetic learners who learn better by doing rather than passively listening to the teachers. Time factor should be taken into account; however, it is worth to spend time for colouring as it increases the knowledge retention of students. In addition, colouring is simple and inexpensive. Therefore, the researcher strongly recommends integrating it as an add-on teaching method.

BP30

EVALUATION OF A STRUCTURED INTER-PROFESSIONAL LEADERSHIP PILOT PROGRAMME

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Aims

There has been a growing emphasis on interprofessional education among healthcare professionals as interprofessional collaborative practice becomes increasingly important in today's complex and interconnected healthcare systems. The National Healthcare Group (NHG) in Singapore developed an interprofessional leadership programme (IPLP) to build interprofessional leadership capabilities among junior healthcare leaders working in our 15,000-strong organisation. A pilot run of the first IPLP curriculum was conducted and evaluated.

Methods

Thirty-two participants attended the 5-day pilot programme, comprising two blocks (2 + 3 days) interspersed by a one-month interval. We adopted the innovative pedagogical tenets of PACTS - Personna, Active experiential learning, Community of practice, Tools-centred and Stories-based sharing. We identified anchor leadership tools (Ladder of inference, Inquiry and advocacy, psycho-geometric relational styles, and SBAR) and ancillary tools (Tuckman team roles, shared decision making, conflict resolution, systems thinking and change management) that are important for effective relations-orientated and change-oriented leadership behaviours (Yukl, 2012). To facilitate transfer of learning post-programme, supervisors of the participants were engaged before and after the programme to guide application of leadership tools in the workplace. Programme evaluation was conducted at a personal, team and programmatic level. Participants monitor their personal learning journey through individual and team portfolios of their reflection on how they applied the leadership tools in workplace situations. These will be showcased at the graduation six months after the programme. Participants participated in a pre and post-programme survey (n=32) and one-to-one interviews (n=9). Responses were evaluated using both quantitative and thematic analysis.

Results

Among 32 participants, 22(69%) are clinical professionals (Medical, Nursing, Allied Health), while 10(31%) are administrative professionals. Participants highlighted that strengths of the programme include sharing by senior leaders(n=14), good programme flow(n=13), relevant role-play(n=13) and sharing within teams(n=8). Reflective portfolios revealed that the most widely used tools were ladder of inference, inquiry and advocacy, relational styles and SBAR. Through their narratives, participants reflected on how the leadership tools were useful in the workplace and highlighted practical difficulties which were encountered. Relevant themes from the interviews include increased awareness of effective relations-orientated leadership behaviours at the workplace, and anticipation of the ongoing learning journey as an interprofessional leader. The participants indicated that support from their supervisors and adjustments to workplace structure would facilitate their performance of the behaviors picked up during the course. Overall, all participants were satisfied/very satisfied with IPLP and would recommend it to their colleagues.

Conclusion

Overall, the multimodal learner-centred tools-based pedagogy of the IPLP pilot run promotes learning transfer of effective leadership behaviors amongst junior interprofessional healthcare leaders. Programme survey results are encouraging, with participants showing high level of satisfaction towards the content and delivery of the programme. These results will guide development of an effective and sustainable curriculum programme for upscaling to cover 800 junior healthcare leaders within NHG. We are in the midst of measuring long term outcomes through continuous monitoring of the participants' performance in the workplace and will be providing engagement platforms such as online/face-to-face discussion forums and inviting participants to facilitate subsequent sessions.

BP31

TRENDS IN LEADERSHIP SKILLS AMONG FIRST & FINAL YEAR MEDICAL STUDENTS & THEIR LECTURERS

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Aims

It is essential to develop strong leadership skills through the medical curriculum to enable medical graduates to become future leaders in their healthcare providing teams. Good leadership in such teams ensures better outcomes for patients. Aims are to compare leadership skills and attitudes towards leadership among medical students in their first and final years and their lecturers and to identify the trends in skills and attitudes and contributing factors for them.

Methods

Study was conducted in two phases. In phase one, leadership skills of the first year medical students and lecturers of the Colombo medical faculty were assessed. In the second phase, leadership skills of the medical students who participated in the first phase were reassessed as a follow-up study in their final year of the medical curriculum. Self and Rater versions of the Authentic Leadership Questionnaire (ALQ) is distributed among the study population. The score calculated for each of the 4 components; Transparency(TR), Ethical skills(ES), Balanced processing(BP), Self-awareness(SA) of ALQ, is the average of the score from 1 to 4 ($\geq$3 each indicates good leadership skills). Basic details of the person, extracurricular activities done, previous leadership experiences, details of previous examinations he/ she faced were also obtained via the questionnaire. Data was analysed using descriptive and comparative statistics in SPSS-v20.

Results

Among final year students who completed ALQ, (n=101; females=52, males=49) 54.5% had good leadership skills (3.05$\pm$0.43; mean of whole sample $\pm$SD) compared to 41.7% in their first year (n=115; females=64, males=51; 2.73$\pm$0.38; p<0.001). Among lecturers (n=24; females=13, males=11) 67% had good leadership skills (3.17$\pm$0.37; p<0.001). Final year students demonstrated improvement in all the components compared to their first year; TR-(3.03$\pm$0.54; 2.79$\pm$0.44; p=0.003), ES-(2.86$\pm$0.64; 2.48$\pm$0.47; p<0.001), BP-(3.18$\pm$0.56; 2.84$\pm$0.61; p<0.001) SA-(3.17$\pm$0.57; 2.85$\pm$0.55; p<0.001). Students rated themselves less than their leaders (rater) in first year (self-2.76$\pm$0.42, rater-2.91$\pm$0.53; p<0.001), compared to final year (self-3.07$\pm$0.43, rater-2.75$\pm$0.68; p<0.001). Lecturers also rated themselves more than their leaders (self-3.17$\pm$0.37, rater-2.71$\pm$0.81; p=0.012). 40.6% of females and 43.1% of males showed good leadership skills in first year (females-2.68$\pm$0.36, males-2.82$\pm$0.46; p=0.086), compared to final year in which 46.2% of females and 63.3% of males showed good leadership skills (females-2.97$\pm$0.37, males-3.14$\pm$0.47; p=0.042). Majority of final year students who had participated in extracurricular activities in both school and faculty had good leadership skills in contrast to others. (at school only-38.5%, faculty only-33.3%, school and faculty both- 64.2%). Majority of final year students who had done extracurricular activities in both sports and non- sports fields had good leadership skills in contrast to others. (sports only-25%, non- sports only-53.3%, both-66.7%).

Conclusion

Students had improved leadership skills at final year compared to first year. Lecturers had better leadership skills compared to students. Professionals tend to underrate their leaders with increasing seniority. Males had good leadership skills and significant improvement compared to females. All-rounders have better leadership skills. It is important to determine contributing factors for poor leadership skills among medical students and address them during their training.

USING STORIES TO EMPOWER RESEARCH

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Aims

Research can inform and improve medical education practices but due to the entry threshold being forbiddingly high, many neophytes hesitate to venture into this terrain. Arguably and ironically, they are the ones most in need of acquiring and accumulating research experience to help them hone their education skills in a systematic and rigorous way. To stoke their interest and ease their entry into research, Duke-NUS has introduced a 'Stories or Experiences' abstract category in addition to the usual 'Education Research' category at its second biennial education conference co-organised with SingHealth in September 2015. We are basing our strategy on the belief that many educators have rich experiences, and by encouraging them to tap into this vein and present their stories - a form familiar to most - at a research forum, they might be emboldened to take a further step in future and participate in full-throttled, conventional research projects.

Methods

For our longitudinal mixed methods study, we intend to use Kirkpatrick's model to evaluate its outcome. The evaluation will be done on three out of the four levels: response, behavior, and culture change. Knowledge will be left out as the administration of tests or their equivalency is inappropriate in this context. For level one (response), we will quantitatively find out from the participants who submit entries to the 'Stories or Experiences' abstract category through a post-conference survey if they like the experience. We will also conduct interviews with these participants to qualitatively understand in a more fine-grained manner what they have gotten out of this experience of participating in a research activity. We will keep track of these participants to see if they would later submit entries to the formal 'Education Research' abstract category, and how long it takes for them to graduate from stories to research proper. As our study is a long-term one, we would be evaluating its impact by repeating our data collection at the subsequent education conferences held once every two years. Presently, our plan is to collect data over six years, or three runs of conferences. The study's continuation depends on the emergence of meaningful results. By comparing the data collected over six years, we are hoping to detect behavioural and culture change among educators in terms of the rate of their research participation.

Results

As the 13th APMEC abstract submission predates the data collection of this study, no results will be presented at the moment. However, by January next year, we would be able to present the results of our first set of data.

Conclusion

We hypothesise that it will take years if not decades to bring about a significant culture change where educators embrace research as a means to further their teaching skills. However, we are confident this is a right step for us to take to encourage greater research participation. Even if our attempt fails, lessons will be learnt and they could inform the design of our next intervention.

BP33

CARTOON-STYLE HANDOUTS AND THEIR EFFECTIVENESS RELATIVE TO TRADITIONAL-STYLE HANDOUTS IN AN ASSIGNED SELF-STUDY SESSION OF PRECLINICAL MEDICAL STUDENTS; RANDOMIZED CONTROLLED TRIALS. (CARTOON STUDY)

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Aims

Self-directed learning is crucial for medical students but could be compromised by stress and fatigue after long days of studying. Cartoon-based materials have been used and found to be beneficial via "multimedia principle"; however, there is scarce evidence of their effectiveness in medical education, especially for self-study. This study aimed to compare between the effectiveness of cartoon-style and traditional-style materials for self-study assignments.

Methods

Two randomized controlled experiments were done at the Faculty of Medicine Ramathibodi Hospital (Bangkok, Thailand). In the first trial, 152 second-year medical students read the self-study materials in class and, in the second trial, 93 third-year students received the materials to study independently at their convenience in a two-week period. The handouts for control groups in both trials were traditional-style (with narrated texts and illustrated figures), and for intervention groups were cartoon-style (with a story and hand-drawn characters). Both types of handouts were about the basics of intercostal chest drainage (contents were formerly taught only in clinical years but were modified for preclinical students in this study), originally created, and verified by expert panels for content equality and validity. The primary outcome was the mean score from the post-test of 20 multiple-choice questions and the secondary outcome was the proportion of students who had read ≥75% of the assigned handout content in each group, measured by self-rated 5-point Likert scale of reading completion (0%, <25%, <50%, <75%, and ≥75%). This study was supported by research grant from the Faculty of Medicine Ramathibodi Hospital, Mahidol University.

Results

In the first trial, the control group and the intervention group had similar baseline characteristics and pre-test scores. The mean post-test scores were 15.69 ± 2.26 and 15.57 ± 2.07, respectively (p-value 0.729). In the second trial, 38 out of 47 students from the control group (or traditional-style group) and 41 out of 46 students from the intervention group (or cartoon-style group) participated in the post-test and were included for analysis. There were also no significant baseline differences between the two groups. However, the cartoon-style group had a 13.8% higher mean post-test score, 13.98 ± 2.81 compared with 12.29 ± 3.37 (p-value 0.018), and a significantly higher proportion of ≥75% reading completion, 70.7% compared with 42.1% (p-value 0.01). The levels of reading completion were correlated with post-test scores (p-value < 0.001), i.e., the more content read, the more post-test score achieved.

Conclusion

Medical students who received cartoon-style handouts for self-studying out-of-class had higher post-test scores on average when compared to those who received traditional-style handouts. This might result from the higher rate of reading completion in the cartoon-style group. Cartoon-based materials are probably more persuasive and engaging; therefore, they are favorable as self-directed learning materials. Future studies should investigate the effectiveness in different groups of learners, e.g. medical students in clinical years and graduate students.

LEARNING EXPERIENCE OF UNIVERSITY OF MALAYA PRIMARY CARE TRAINEES IN PALLIATIVE CARE ELECTIVE ROTATION

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Aims

Palliative care is an important element in primary care. There is opportunity in primary care to address palliative and end of life issues. Currently, there is no structured palliative care attachment in the University of Malaya Primary Care postgraduate programme. To allow the primary care trainees to experience and acquire skills in palliative care management, a 3-week elective rotation in a hospice was developed. This study aimed to explore the primary care trainees' learning experience during the 3 week palliative care rotation and their perception on how they can apply this short learning experience into future primary care practice.

Methods

All primary care trainees who underwent the elective rotation from June 2014 till June 2015 were asked to complete open-ended questionnaire survey. Participation was voluntary. The survey covers specific aspects of the trainees' useful experiences, facilitators and limitations. The responses of open ended questions were analysed using thematic analysis where all the comments to each question were categorised into theme.

Results

Fifteen out of 23 eligible trainees completed the questionnaire. Generally, the trainees found the rotation useful in improving their knowledge and skills in palliative care. There were three aspects of the palliative rotation that they found beneficial which are: palliative care round, home care and pain control management. Language barrier was mentioned as the main limitation when dealing with patients. Majority perceived their learning experience could be applied into their future practice in particular, end of life communication with patients and carers. The primary care trainees also suggested that the hospice rotation could be combined with hospital-based palliative care.

Conclusion

Although this a short rotation, it is promising to see that the palliative care experience has positively stimulated the primary care trainees in improving their knowledge and skills in the management of end of life patients.

A COMPARISON OF UNDERGRADUATE CLINICAL OPHTHALMOLOGY LEARNING METHODS: SMART PHONE TELEVISION DISPLAY VERSUS SLIT LAMP TEACHING TUBE

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Aims

To compare medical students' preference of smart phone television display (SPTD) to a slit lamp teaching tube (SLTT) in undergraduate clinical ophthalmology education.

Methods

This is a prospective, randomized cross-over comparative study. Fourth year medical students attached to a tertiary general hospital for their clinical ophthalmology attachment were invited to participate in this study. Two students were randomly assigned to 2 teaching sessions using either the SPTD followed by SLTT or vice versa. After both teaching sessions, students were asked to answer 6 questions (score from 1 to 10) and also feedback. All participating students were sent the results of the study one month after the end of their posting and were asked to reflect upon the outcome and answer a further 3 questions.

Results

Thirty eight students were recruited (18 male, 20 female). The overall satisfaction scores were significantly higher in subjects tutored using the SPTD than the SLTT (mean 8.6±1.5, 7.5±1.0, respectively, p<0.01). The students preferred the SPTD compared to the SLTT in terms of "visualizing exactly what was described" (8.5±1.4 vs 7.0±1.3, p< 0.01),"seeing the signs described all the time" (8.4±1.3 vs 7.2±1.2, p< 0.01), "understanding ocular anatomy" (8.3±1.2 vs 7.6±1.2, p< 0.01), "confidence in identifying clinical signs "(8.4±1.2 vs 7.5±1.2, p< 0.01), and final satisfaction (8.4±1.5 vs 7.4±1.1, p< 0.01). Students commented that they preferred the SPTD for group teaching (n=4) and for being able to physically point out signs (n=9) whereas some other students (n=4) attributed their preference for SLTT to better focusing and less glare. 14 students (50%) responded to our follow up emails. All of them (100%) agreed with our interpretation of the data and would support the use of the SPTD in undergraduate clinical ophthalmology teaching.

Conclusion

Our study has demonstrated that students are satisfied using both teaching aids but preferred the SPTD in terms of understanding and overall satisfaction. The utility of SPTD as a teaching aid can significantly increase the satisfaction of undergraduate medical students during their ophthalmology attachment. Furthermore, the novel approach of using a smart phone markedly improves the portability and cost of this set up.

ELIMINATING "WRONG PATIENTS" MEDICATION ERRORS IN AN OUTPATIENT CLINIC IN A COMMUNITY HOSPITAL

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Aims

Medication errors are reviewed seriously by the hospital as this can result in adverse events in patients' safety and well being. The Outpatient Clinic had recurring "wrong patients" medication errors on in August, October, November, December 2013, May, June and August 2014. A multidisciplinary Quality Improvement (QI) team was formed to eliminate "wrong patients" prescription errors in 6 months. This project is significant to promote safe medication practice through redesigning workflow processes and staff education.

Methods

Using QI methodology, our team mapped the patients' journey, brainstormed and identified the root causes with a Pareto chart. Causes cited were:

- No prescribing prompters for same patients on same day
- Interruptions by clinical staff
- No prescription safety checks by clinic staff
- Consultation table cluttered with many medical records
- Patients' name is the only identifier during consultation
- Patient responded wrongly to name called

Pre-intervention measures included 3 discussion meetings between the physicians, nurses and Info-technology staff for better understanding of the prescription process.

Utilizing rapid Plan-Do-Check-Act cycles, successful interventions implemented are:

- E-prescribing prompters for duplicate orders on the same day
- 'Double Checking System' between the nurse and the physician before issuance of prescription
- Wall-mounted file holder for post-consultation patients' records
- 'Please-do-not-disturb' signage placed outside consultation doors during prescribing
- Safe medication practice of utilization of at least 2 patient identifiers (e.g. name and date of birth)
- Patients to verbalise their names prior to prescribing

Another initiative included the placement of 'RIGHT Patient for RIGHT Medications' signage in all clinic computers used for prescribing. This intervention failed as there were still reoccurrence of similar 'wrong patient' medication errors.

Results

Feedback from the physicians during the discussions demonstrated that they felt that correct prescribing was their main responsibility. Doctors, nurses' surveys on e-prescription prompters, wall-mounted medical records file holder, 'double checking system' and safe medication practice of usage of at least 2 patient identifiers were positive. Post consultation patient survey showed that 88.9% of the patients were asked to verbalise their names instead of the physicians telling them. To date there was no "wrong patients" prescribing errors reported.

Conclusion

The team had successfully met its target with collaborative efforts from both the clinical and info technology departments. The Joint Commission National Patient Safety Goal which required practitioners to use at least two patient identifiers when providing care, treatment and services was incorporated into routine clinic consultations. New physicians were also educated on the patient safety aspects in prescribing.

The project implemented systems-oriented intervention to increase awareness of risk and workflow-redesign strategies. Zero reoccurrence and near-misses of such medication errors were maintained. The team conducted audits and continually gather feedback for further improvements. Interventions are built into clinic routines for sustainability.

BP37

DESIGN AND IMPLEMENTATION OF A SITUATIONAL JUDGEMENT TEST TO ASSESS NON-ACADEMIC ATTRIBUTES FOR SELECTION INTO MEDICAL SCHOOL IN SINGAPORE: EVIDENCE FROM 2013-2015

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Aims

The National University of Singapore (NUS)'s Yong Loo Lin School of Medicine attracts 2000 applicants yearly, with approximately 10% receiving a place. A programme of improvement was launched in 2013 to develop their existing selection process by promoting greater standardisation, fairness, and face validity, as well as widening inclusion of sub-groups of candidates in the region. Building on international research and evidence bases, one key part of this approach was the development and implementation of a Situational Judgement Test (SJT) to assess for the non-academic attributes that are required for success in medical school and subsequent training pathways (Prideaux et al 2011; Patterson et al 2012). This development represents the first time an SJT for medicine has been developed for use in South East Asia. As such, a secondary aim of the project was to understand more about the methodology for contextualising SJTs to their local context during development.

Methods

Initial work by the faculty identified the critical non-academic attributes for a medical student at NUS, through consultation with key stakeholders. The NUS SJT targets three domains: integrity and ethical responsibility, empathy, and interpersonal skills. During test development, contextualisation interviews, local expert reviews, and concordance panels were held with members of the NUS admissions task-force, with this local expert input aiming to elicit essential cultural insights to facilitate the production of items and response keys that are highly relevant and culturally acceptable for the local context. The SJT has been used live, with approximately 800 candidates annually, since 2013. Psychometric analysis of the SJT is provided, in addition to analysis of the role of contextualisation during development.

Results

The SJT has shown good levels of reliability across the three years ($\alpha\pm=.66-.86$), and correlates significantly with the interview stage scores ($r=.13-.14$), demonstrating convergent validity. Additionally, the SJT is not significantly speeded, and no group differences have been found for gender, age, ethnicity or educational qualification. Candidates perceive the SJT positively, indicating that the SJT is fair, of appropriate difficulty, culturally acceptable and relevant to those applying to NUS, in addition to providing insight into a medical career.

Conclusion

Over three consecutive years, the NUS SJT has demonstrated sound psychometric properties in terms of reliability and validity. The presented method of contextualisation is effective in making SJT scenarios and responses appropriate for the local Singaporean context. The SJT is perceived as fair, face-valid and culturally acceptable for the local context, and analysis showed that candidates were not disadvantaged by belonging to specific ethnic, educational or gender groups. Next steps for improvement will include ongoing, year-on-year evaluation and validation of the SJT, including the identification of, and correlation with, relevant outcome criteria.

DESIGNING, DEVELOPING AND DEPLOYING A COMMUNITY ORIENTATED HAND SURGERY CURRICULUM FOR CAMBODIA

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Aims

The global burden of plastic surgery conditions is becoming increasingly prevalent in the developing world. However, these countries have little experience in the field and so rely heavily on humanitarian visits from international surgeons to tackle this burden. Efforts need to be made to ensure these humanitarian visits are sustainable in the long term and so emphasis should be placed on the training of local surgeons.

This paper focuses on the development of a hand surgery curriculum in Cambodia, following the experience of visiting hand surgeons to the Children Surgical Centre (CSC).

Methods

The curriculum resulted from a three-part process of discerning the community needs, designing the curriculum (around the community needs), and then delivering the curriculum using pedgagogical methods appropriate to the local community. This formed the basis to develop a targeted surgical skill acquisition program in the management of common hand cases and the identified local surgeons were then taken through a direct teaching and flipped classroom model. Assessment was performed through case-based discussion and direct observation of procedures following a period of direct supervisions and practice. The usefulness and effectiveness of the program was assessed by the structured questionnaire and interviews with the participants and stake holders.

Results

A total of 260 cases were seen in four one-week visits over an 18-month period (May 2013 to Nov 2014), and 62 cases were operate on. The breakdown of cases was as follows: burn conctratures (21%); congenital hands (18%); trauma deformities (27%); nerve injuires including plexus injuries (29%) and tumour reconstructions (5%). A separate audit of the past 600 cases was performed before the arrival of visiting hand surgeons with the following breakdown: burn and trauma deformities (75%), congenital hands (24%) and nerve injuries (0.8%). The increase in treating nerve injuries (0.8% to 29%) was seen as a direct result of available visiting expertise, and the conduction of a micro-neural workshop for the local staff. Following analysis of the local community needs, a curriculum focused on three main conditions was designed: (1) congenital hand differences, (2) deformity corrections (from burns, trauma and venomous injuries) and (3) nerve reconstruction. Ongoing information technology support ensured there is continuous training and feedback in-between visits.

Objectively and subjectively, there was an increase in knowledge base of the participants and surgical competencies. The stake-holders perceived the program to be beneficial in allowing for effective transfer of knowledge and skills from visiting surgeon to the local surgeons.

Conclusion

This study shows the methodology of discerning, designing, and delivering a surgical skill acquisition program in hand surgery for an underdeveloped community. Any program implemented had to be locally relevant, effective in skill transfer and result in a sustainable congenital hand surgery service in Cambodia. The model can potentially be reproducible in other similar countries.

THE INTEGRATED RESUSCITATION DRILL: INSTILLING SKILLS AND PATIENT SAFETY THROUGH SIMULATION

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Aims

Resuscitation skills are an integral component in almost every medical practice. Over the years, modules and techniques in resuscitation have undergone revolutionary advances and refinement in order to achieve optimal patient outcomes. The Integrated Resuscitation Drill (IRD) is designed with the sole objective of providing junior clinicians and nurses with an interactive and hands-on educational experience through simulation, while imparting hospital led patient safety initiatives. The IRD seeks to improve knowledge, confidence and practical skills in crisis management situations as well as inculcating effective communication through simulation training. The IRD also entails a structured debriefing session to improve learning through a reflective process.

Methods

The Integrated Resus Drill is conducted at the institutions' Simulation Lab (SIMTAC). Instructors (senior doctors/residents) underwent prior training in facilitating a simulation educational project. Learners were Post-graduate Year 1 doctors (n=60) and nurses of varying ranks (n=92) who were divided into small learner groups of about 15 in each simulation zone. 5 acute medicine scenarios, with 4 -5 participants per scenario were simulated on a high fidelity simulation manikin, followed by a debrief. Facilitators observed learners' basic knowledge and skills in common resuscitation scenarios and interpersonal communication. The debrief that followed focused on reflective discussion, analysis and feedback on the team's performance. It aimed to highlight the importance of the SBAR method in communicating critical information as well as Crisis Resource Management (CRM) principles which are crucial for effective teamwork and outcome in a crisis situation. The debrief also briefly touched upon knowledge on pertinent ACLS algorithms.

Results

Both qualitative and quantitative feedback was obtained from 59 doctors and 63 nurses. They were required to rate their confidence level upon completion of the drill on a scale of 0 to 10 (0= Not confident at all; 10= Highly confident) across parameters ie: recognition of a crisis, initiation of management, application of ACLS, effectiveness of communication among others. The mean score among the doctors and nurses was 7.5 and 6 respectively. Feedback reflected improved cognition, skills and confidence in all domains with more than 95% agreeing to strongly agreeing that the drill had achieved its goals. Qualitative feedback such as "great hands on experience", "structured debrief helpful" and "encountered typical real-life scenarios "were highlighted. A focused group discussion will be conducted at 4-6 months and 1 year to study the long term effects of this training and to tease out what was most useful when they encountered similar crisis situations in the working place.

Conclusion

The Integrated Resus Drill is a powerful learning tool that employs simulation based training devoid of lengthy didactic sessions. It engages learners and improves learning and knowledge of CRM principles as well as enhancing interprofessional communication and confidence in crisis situations. It hopes to produce healthcare professionals who are more capable, and competent in attending to similar real life crisis situations, thereby improving patient safety. Learning through simulation and especially reflective learning with structured debrief are powerful tools to enhance health professionals competence.

BP40

"LEARNING WHAT NO TEXTBOOK CAN TEACH" - A PROCESS ORIENTED APPROACH TOREINFORCE OBSERVATIONAL LEARNING.

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Aims

Background:

Teaching and learning of clinical skills remains a challenge for clinical specialities. Skill teaching has evolved over the last decades through the traditional two-step approach to more structured approaches like Peyton's four-stage or George and Doto's five-step approach, however, literature reveals that different approaches alone might not alter learning outcomes. Hence this study was undertaken to impart and reinforce the observational learning of motor skills.

Aims:

To maximize the learning of motor skills by infusing observational skill prospects of students and faculty with a two phase skill training approach and to determine the supremacy of this technique on the acquisition of skills required for fabricating complete dentures.

Methods

360° analysis was carried out with teachers and students of Faculty of Dental sciences, Sri Ramachandra University, regarding clinical skill demonstration, interruptions in skill learning, and problems in retention, and performing the skill on real patients and results were considered for the newer programme. Study population is final year undergraduate dental students (n=60).

An observational learning method was designed, which is the amalgamation of pre demonstration training and clinical live demonstration on real patient.

Phase I included recapping prior knowledge through one to one student - faculty interaction, teachers explanation about the conceptual transparency of the procedure and video demonstration of accurate as well as possible errors that may occur in complete denture treatment with clarifications for what why, when and how types of frequently asked questions.

Phase II is well structured single live demonstration with instruction and information guided observation for the same procedure.

During this training, all possible interruption factors revealed by the study group were eliminated to a maximum extent. Students were studio trained by this hybrid method on complete denture fabrication and allowed to perform the procedure directly on 3 real patients under faculty clinicians' supervision. They were subjected for three months follow up competency assessment. Results were submitted for statistical analysis. The impact of this approach on students was determined by a short questionnaire using 5-point Likert scale.

Results

The mean score of the assessment was 73.2% (n=60) which is excellent on retrospective comparison with previous year results in which students were trained by traditional method. 61% of students strongly agreed that this method helped them to learn the skill more efficiently and 63% agreed that they gained adequate knowledge background of the steps. 56% expressed their confidence in treating completely edentulous patients independently whereas 89% said that they are now able to judge the appropriateness of every aspect of the entire procedure.

Faculty feedback revealed that an opportunity to systematically prepare the students before clinical observation strengthened their cognitive component and refined their observational skill.

Conclusion

The aims of the study are attained. In contrast to the various recognized approaches, this method considered and rectified the possible confounding factors that may distract the observation. Phase I increased the accuracy of observation, phase II reinforced learning, clinical practice strengthened skill acquisition and assessment revealed the skill retention power of this training.

E-POSTER PRESENTATION – SESSION 1A

STATION 1

D1001 **Flipped Classroom, Another Choice to Promote Learning at Shantou University Medical College**
Xin Gang, China

D1002 **Knowledge and Confidence of Emergency Department Doctors in Managing Dizzy Patients: Findings from a Tertiary University Hospital**
Leonora Liu, Singapore

D1003 **The Sparrow, the Pelican, the Cuckoo and the Caiman**
Junaid Sarfraz Khan, Pakistan

D1004 **Improving Access to Laparoscopic Surgery Training via Online Platform**
Rishav Shrestha, Singapore

D1005 **Automated Curriculum Mapping**
Scott Helf, United States of America

D1006 **Attitudes Toward Older Adults Amongst Physiotherapists Working in Acute Hospital Settings: A Singapore Perspective**
Teng Sze Kee, Singapore

STATION 2

D1007 **A Call for Devising a Framework of Unified Learning Outcomes and an International Progress Test: It Is High Time**
M.Marwan Dabbagh, Saudi Arabia

D1008 **Intraoperative Teaching and Learning: A Case Study of Surgical Teachers and Trainees**
Caroline Ong, Singapore

D1009 **"If Only I Knew": How Can Final Year Medical Students be better Prepared for Being Junior Doctors?**
Kevin Kow, United Kingdom

D1010 **Comparison of Student Research Program and Curriculum in Korean Medical Schools**
Park Yonchul, South Korea

D1011 **Teaching Residents to Teach**
Ng Chung Wai, Singapore

D1012 **Fun Friday: Using Movies for Teaching and Learning Forensic Medicine**
Oktavinda Safitry Daud, Indonesia

D1013   **E-Biochemistry: An Integrated Platform for Enhancing Contextual and Active Learning of Medical Biochemistry**
Ban Hon Kim Kenneth, Singapore

D1014   **Pilot Study - Reducing Ageist Attitudes Among Healthcare Students through a Multi-Disciplinary Home Care Programme**
Gloria Leung, Singapore

D1015   **Enhancing Our Curriculum to Enable Practice**
Jason Chan, Singapore

D1016   **A Study on SSM3 Student Feedback from 3rd Year Medical Undergraduates In UBD**
Hashmet Parveen, Brunei

D1017   **Why do Students Study Medicine? Initial Data from the Pilot Studies**
John Ciaputa, United Kingdom

D1018   **2000 Year Old Scripture 'Thirukkural' - A Tool for Learning and Practising Cardiac Surgery**
Sai Chandran RV, India

STATION 4

D1019   **Experience of a Regulatory Council in Reforming Curricula of Medical Schools in Sudan to Embrace Medical Professionalism Concepts**
Zainalabdin Abdelrahim Karrar, Sudan

D1020   **Clinical Orthopaedics Examination Skills (CORES) Video - Its Impact on Students' Learning Experience and OSCE Performance**
Chong Yin Zi Sharon, Singapore

D1021   **Flipped Classroom in Nursing Education: A Pilot Sessions Among First and Second Year Students in Japan**
Harumi Gomi, Japan

D1022   **Identification of Learning Styles in First Year Undergraduate MBBS Students of a Private Medical School in Western India**
Anuradha Joshi, India

D1023   **Medical Students Knowledge and Attitude in Relation to Ethics in Healthcare- An Evaluation of Year 2 Medical Students**
Chiang Shu Hui Grace, Singapore

D1024   **Validation of Assessment for Image Evaluation for Internship Radiographers**
Chow Hwei Chuin, Singapore

FLIPPED CLASSROOM, ANOTHER CHOICE TO PROMOTE LEARNING AT SHANTOU UNIVERSITY MEDICAL COLLEGE

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Aims

Evidence shows active learning can enhance the students' learning outcomes. The flipped classroom could provide the students more active learning processes with application of knowledge through problem solving. We flipped two classes in an Infection and Immunity course at Shantou University Medical College (SUMC). The students' views and the final exam scores compared with those in last year were investigated.

Methods

Twenty-five 3rd year medical students participated in the flipped classroom learning. The flipped classroom included three steps:

1. Pre-class individual self-study. The students were provided reading guide, small video, learning materials, and pre-test questions. They were required to be prepared before they came to the class.
2. Student-centered class. The students did a quiz with 10 multiple-choice questions with basic knowledge individually and then discussed the same questions in their teams. They would find their shortage and discussed with peers during the team-study. Then they worked on a clinical case scenario associated with the content they have learned. They came up with the learning objectives and solved the problems in teams. They then presented their learning issues to the whole class.
3. Peer-assessment.

Results

1. All students strongly agreed or agreed that pre-class self-study could promote their understanding of the knowledge, and quiz enhanced their learning. More than 90% students agreed that the pre-class preparation and discussion with peers promoted their learning.
2. Compared with the traditional lecture class, the students considered the flipped classroom good to promote interactive learning ($P<0.01$) and the attendance was higher in flipped classrooms ($P<0.01$).
3. Final exam grades in this year were significantly higher than those in the last year ($P<0.1$), but still required further investigation.
4. The students and the facilitator considered team-presentations were not effective and should be replaced by the whole class discussions.

Conclusion

The flipped classroom could provide a learning platform for more active learning in the basic medical science courses in China.

KNOWLEDGE AND CONFIDENCE OF EMERGENCY DEPARTMENT DOCTORS IN MANAGING DIZZY PATIENTS: FINDINGS FROM A TERTIARY UNIVERSITY HOSPITAL

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Aims

Dizziness is one of the most common presenting complaints in the Emergency Department (EMD). Though many of these patients have benign causes of dizziness, up to 30% of them may be harboring serious conditions [Herr et al, 1989]. In the United States, around 25% of patients aged above 50 and presenting with acute isolated vertigo have been shown to have underlying posterior circulation infarctions [Norrving et al, 1995].

With such time-sensitive diagnostic differentials, EMD doctors need to be proficient and confident in differentiating benign from life-threatening causes of dizziness, and managing these patients accordingly.

However, studies have shown that factors such as an imprecision of patients' reports of their dizziness symptoms (Newman-Toker et al, 2007), doctors' misconceptions about the bedside evaluation of dizzy patients (Newman-Toker et al, 2008), and a multifactorial aetiology of patients' dizziness (Colledge, 1996) have been shown to contribute to a perceived difficulty in managing dizzy patients. Without efforts to educate practitioners, this perceived difficulty is likely to persist and perpetuate, compromising patient outcomes and institution efficacy, while increasing costs for both patients and institutions.

This study aims to assess the level of knowledge and confidence of EMD doctors in managing dizzy patients. Results of this study would help to inform educators of the specific areas requiring educational intervention. As such, post-graduate medical education efforts in the EMD can be improved and streamlined, optimizing clinical knowledge acquisition, practitioner confidence and management of dizzy patients in the EMD.

This study also aims to evaluate the perceived feasibility and effectiveness of various educational modalities. This would help to tailor educational efforts to suit learning preferences of EMD doctors, improving the post-graduate medical education curriculum on dizziness.

Methods

An anonymous quiz and survey will be administered to the EMD physicians in National University Hospital, to assess their knowledge and confidence in managing dizzy patients. Retrospective data review will be performed on the quiz and survey results.

The EMD doctors will be attending a lecture at their institution on managing the dizzy patient in the EMD. Prior to the start of the lecture, they will be asked to complete and submit the anonymous quiz and survey.

The quiz is an anonymous, Singapore Otology Board-validated quiz assessing knowledge in diagnosing and managing dizzy patients presenting to the EMD, with emphasis on differentiating between central and peripheral causes of dizziness. Correct responses are derived from consensus responses of Otologists at an earlier Singapore Otology Board meeting.

The anonymous survey assesses confidence of EMD doctors in the bedside evaluation of dizzy patients. These include confidence in the interpretation of clinical signs such as nystagmus and skew deviation, and confidence in performing clinical tests such as the Dix-Hallpike and Head Thrust Tests. Participants will be surveyed about perceived barriers against confident management of dizzy patients, as well as the perceived effectiveness of various educational modalities to improve management of dizzy patients.

will be surveyed about perceived barriers against confident management of dizzy patients, as well as the perceived effectiveness of various educational modalities to improve management of dizzy patients.

Results
To be discussed.

Conclusion
To be discussed.

THE SPARROW, THE PELICAN, THE CUCKOO AND THE CAIMAN

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Aims

There have been rapid recent developments in standardizing medical education globally. The standards set for the product of medical education programs are silent in the processes involved in arriving at those standards. Current debate on curriculum favours a standard-centred integrated spiral, modular curriculum, but a large number of medical schools are finding it difficult to receive their curriculum delivery for lack of capacity on the part of the faculty and also because such changes are sometimes not relevant to the context in which they are embedded. The presentation focuses on the inter-relationship between the student-centred and community-based education grounded in the socio-economic and cultural context and the importance of fulfilling the social contract through this contextually grounded Health Professions Education.

Methods

The challenges of implementing the same shall also be addressed considering our unique circumstances. The role of accreditation bodies in directing Health Professions Education shall also be highlighted. The need to develop, implement and critically review a standardized national curriculum based on the national needs shall be addressed. The role of the community as a partner in running the curriculum shall be considered.

Results

The presentation shall endeavour to provide a road map for developing a futuristic curriculum that shall fulfil the health needs of the society for many decades to come and allow for a seamless transition from undergraduate education to post graduate training/ clinical practice.

Conclusion

Curriculum of a medical education program is unique to the context in which it is developed. There is evidence in literature that even foreign translated curricula, over a period of time, hybridize to focus on the context in which they are embedded. A focus on the product while learning the process to arrive at that product to be decided by medical educators within their own context should be promoted.

D1004

IMPROVING ACCESS TO LAPAROSCOPIC SURGERY TRAINING VIA ONLINE PLATFORM

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Aims

Today, residency programs are facing regulatory issue regarding time constraint for not only for clinical activities but also for dedicated educational activities. Moreover, the access to specialized expertise and information is more difficult in developing countries where the wide spread internet connection can improve accessibility. For this purpose, we have created an online platform in which all the theoretical content regarding Basic Laparoscopic Skills Course are embedded together with the pre and post evaluation test.

The aim of our study is to assess the effectiveness of the online training platform compared to the traditional methods through delivered lectures.

Methods

We created an online platform at http://coursemed.com and collected login and usage data as well as the pre and post-lecture MCQ scores between November 2014 through August 2015. Data regarding the activities performed, the perception of the online platform and feedback regarding the learning experience were also collected.

Results

During November 2014 through August 2015, we enrolled 198 surgical trainees from different academic institutions of several Asian countries (Nepal, Myanmar, Cambodia, Sri Lanka, and India). Out of these, 66 were contactable. 57 trainees underwent at least one of the activities (survey, quiz, or lectures). While all of them took the pretest and 51 took the post-test, only 43 completed both. From these (n=43), 5(11.6%) had no change in test scores, 9(20.9%) had poorer test scores, and 29(67.4%) did better after taking test. The mean pre-test and post-test scores were 13.56 ($\pm$2.55) and 15.70 ($\pm$2.49) (two-tailed $p<0.0001$) and indicated a significant increase in test scores.

Conclusion

Overall, an online platform can be used as an alternative method of disseminating knowledge for improving access to Laparoscopic surgery in academic centers and especially in developing countries with limited access to specialized information. Limitations do exist, in the form of internet access as well as lack of interactive discussion. More research is needed to optimize the online training delivery platform with more complex task to be organized.

AUTOMATED CURRICULUM MAPPING

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Aims

Traditional curriculum mapping is often slow, cumbersome, and difficult, and often provides too little information to effect meaningful change. Gathering faculty to discuss, reach consensus, and document precisely what and how a curriculum is delivered can be a considerable challenge. In our highly interactive presentation we will propose and demonstrate a novel technology developed at Western University of Health Sciences, College of Osteopathic Medicine of the Pacific (WesternU COMP), that greatly simplifies and minimizes the effort of mapping the curriculum, occurs in real time, and yields a much more detailed, clear, accurate, and precise representation of how the curriculum is actually delivered. We call this technology "Automated Curriculum Mapping" (ACM).

Methods

Built using Microsoft SharePoint technology, our bespoke ACM solution replaces often disparate technologies used for curriculum inventory, delivery, and scheduling with a unified interface for administration, staff, faculty, and students. Faculty upload learning items in the course of normal curriculum delivery as they would in typical learning management systems, using an easy to fill out web form, where they indicate all pertinent information regarding the learning activity through a series of required, simple, quick, drop-down, check-box, autocomplete, and radio button controls. The system uses information captured in the required fields to automatically and continuously generate the curriculum map, an easily searchable and downloadable grid of every learning activity and their tagged details. All relevant data is easily imported into spreadsheets, statistical analysis software, databases, and data warehouses to facilitate qualitative, quantitative, and visualization techniques for discovering opportunities for curricular improvement and optimization.

Results

For the past two years WesternU COMP faculty have used data gathered from the ACM to revise their courses and learner activities. ACM empowers faculty to analyze the curriculum from broad, multiple course spanning topics, to granular levels, such as institutional, program, course, professional licensing board learning outcomes, standardized national library (e.g., MeSH) terms, and Bloom's taxonomy. Using this tool, we can better prevent unplanned redundancies and identify gaps in the curriculum. In addition, the curriculum committee uses the information to take a global look at our curriculum and determine whether it meets all of our institutional and program learner outcomes. The information provided has focused us on opportunities for improving the curriculum immediately, in the near future, and during regular curriculum revision cycles.

Conclusion

ACM has proven highly successful at WesternU COMP. It has replaced our learning management, curriculum calendar, and curriculum management tools with one easy to use, single entry system, where faculty upload and tag all of materials for their learning activities, and students find and download materials from the same system. Currently our ACM encompasses the entire preclinical curriculum, and we look forward to the challenge and potential success of capturing the clinical years of medical education using the same or similar technology.

ATTITUDES TOWARD OLDER ADULTS AMONGST PHYSIOTHERAPISTS WORKING IN ACUTE HOSPITAL SETTINGS: A SINGAPORE PERSPECTIVE

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Aims

Ageism is prevalent in healthcare and it shapes the attitudes and behaviours of healthcare professionals. In particular, negative attitudes toward older adults create biasness including instances of providing sub-optimal treatment. Although the attitudes towards older adults play a major role in determining healthcare standards for them, no studies have been done to evaluate the current baseline attitudes of working physiotherapists in Singapore. In addition, the increasing number of older adults being admitted into acute hospitals has prompted us to examine the attitudes of physiotherapists working in acute inpatient settings.

Within the acute hospital inpatient settings in Singapore, we aim to: (1) establish the current baseline attitudes of physiotherapists toward older adults, (2) identify characteristics of physiotherapists that impact on their attitudes toward older adults and (3) investigate how the physiotherapists' attitudes toward older adults affect their goal settings.

Methods

Physiotherapists working in acute inpatient settings of eight public hospitals were recruited through purposive sampling. Participants completed a questionnaire survey consisted of the: (1) Basic Participant Information and Characteristics, (2) modified University of California at Los Angeles Geriatrics Attitudes Scale (UCLA-GAS modified), and (3) Modified Scale for Aggressiveness in Goal Setting (Modified SAGS). Descriptive statistics, independent sample t-test, multiple linear regressions, bivariate correlation analysis were used where appropriate.

Results

A total of 360 questionnaires were distributed, and 224 were returned, at a response rate of 62.2%. The physiotherapists' attitudes toward older adults were significantly positive with a mean score of 3.67 ± 0.33 [t (217) = 29.84, p<0.05] in the UCLA-GAS modified score. The ability to communicate effectively with older adults (p= 0.002), and every 25% increment in time spent with older adults (p= 0.039) were associated with an increase in UCLA-GAS modified score by 3.204 and 0.769 respectively. There was no correlation between UCLA-GAS modified and modified SAGS (r= 0.133, p= 0.053). However, the two characteristics including the ability to communicate effectively (p= 0.015) and time spent with older adults in clinical practice (p= 0.004) were significantly associated with modified SAGS score.

Conclusion

In Singapore, the current baseline attitudes of physiotherapists working in acute inpatient settings toward older adults were generally positive. Two characteristics, namely the ability to communicate effectively and spending more time with older adults, were found to be associated with the attitudes toward older adults and aggressiveness in goal settings. However, it is important to note that no correlation was found between attitudes toward older adults and aggressiveness in goal settings. As such, future research can evaluate how these characteristics can impact on physiotherapy practices and delivery in the older population.

This pilot study serves as a stepping stone towards understanding how we can cultivate positive attitudes towards older adults through education and training, hence improving the quality of physiotherapy practice for older adults. This is particularly crucial in the Singapore context, where older adults form the majority of healthcare users requiring physiotherapy.

A CALL FOR DEVISING A FRAMEWORK OF UNIFIED LEARNING OUTCOMES AND AN INTERNATIONAL PROGRESS TEST: IT IS HIGH TIME

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Aims

Medical colleges around the world follow different medical curricula. Theoretically speaking, all the systems should share similar learning outcomes intended to be acquired by their graduates; however, practically speaking, each medical school has its own learning outcomes despite the simple fact that all graduates must be ideally equipped with more or less the same core knowledge and basic skills. Hence, there is a need for a unified collaboration between the medical curricula in regards to curriculum development and progress follow up. In this study we attempt to propose a solution to deal with this issue.

Methods

In an attempt to deal with this issue, we propose the following: a) The establishment of a "Framework of Unified Learning Outcomes - (FULO)" that serves as a common ground for all medical curricula globally. This could be achieved by evaluating the currently available outcome frameworks and forming an international liaison to assimilate them together in a single framework. b) A Progress test (PT), a longitudinal assessment tool implemented over three decades ago, reflects the growth of students' functional medical knowledge and retention over a prolonged period of time. The establishment of an International Progress Test - (IPT) that serves as a standardized tool for tracking FULO's application and progression, in addition to providing a benchmarked comparative ground for assessment and development of curricula.

Results

This is still an innovative idea of ours, and we have not yet tested it. However, we aim to call for an international liaison to help bring this idea to practice. The PT was first introduced in Maastricht Faculty of Health in Netherlands as a tool to assess its problem-based learning (PBL) curriculum in the early 1970's. Since then, medical educationists have documented several advantages of the PT, which thus contributed to the development, implementation and rapid spread of various types of PTs in many medical schools. For example, Findyartini A. et al showed their locally administered PT to be reliable and valid in measuring medical students' performances. To date there is no available "international" PT that is undertaken by all medical students around the world that aims to compare their medical knowledge.

Conclusion

Unified learning outcomes would ensure standardization of education and hence quality of care in the long run. • FULO would allow weaker schools to revive and develop. • Transferring courses and students between colleges would be much less burdensome for the student and college administrations since they share the same common ground (curriculum and can compare student's standard objectively using the IPT). IPT would allow for greater educational efficiency in curriculum development and progress assessment, that in addition to other perks like • Reduced overall cost burden on medical education since production and administration of the test would be a collaborative process. • Valuable information data pool for medical education research.

D1008

INTRAOPERATIVE TEACHING AND LEARNING: A CASE STUDY OF SURGICAL TEACHERS AND TRAINEES

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Aims

A competent surgeon requires advanced psychomotor skills, critical decision-making and effective teamwork skills. Much of surgical skills training entails progressive participation in supervised operations. In the operating theatre, case variability, operating team interaction and environment affect trainee learning and performance, while surgical teachers face the key challenge of ensuring patient safety. Prior survey-based research suggests surgical teachers and trainees have differing perspectives about the quality of intra-operative training. Using a theoretical framework of situated learning, we explored teachers' and trainees' beliefs and values about intra-operative training and reasons for any differences.

Methods

A qualitative case study method was used where five teacher-trainee pairs participating in an observed teaching operation were separately interviewed about the same operation. Thematic analysis of transcribed interviews and observations was performed with iterative refinement and a reflexive approach was adopted throughout the study.

Results

Teachers and trainees had shared recognition of learning about technical operative skills in every case while in three cases, they differed regarding non-technical learning points like surgical reasoning and team management skills. This non-recognition of learning points and/or different learning goals resulted in teachers and trainees having different values about the process. Teachers and trainees expressed satisfaction in all cases because the trainee successfully completed most of the operation without need for the surgeon taking-over. Trainees described a positive learning environment and having learned new things as contributing to satisfaction. Teaching-learning behaviours observed and discussed were modeling, coaching and scaffolding, while exploration, reflection and articulation were less common.

Conclusion

Our study confirms and explains differing teacher and trainee perspectives of intra-operative surgical skills training. Factors contributing to different perspectives include teacher/ trainee abilities, values and situational influences. Targeted teaching strategies could enhance intra-operative learning.

D1009

"IF ONLY I KNEW": HOW CAN FINAL YEAR MEDICAL STUDENTS BE BETTER PREPARED FOR BEING JUNIOR DOCTORS?

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Aims

The transition from medical student to junior doctor is often both the most anticipated moment of a career in medicine, and the most unnerving. Medical students in their later years are taught, and expected, to perform at the level of junior doctors, but even with such preparation, the learning curve of a new junior doctor is steep. Does this reflect a greater need for training in medical school, more training as a junior doctor, or more clinical experience? This study examines how the self-reflected competencies and concerns of medical students differ from practicing Foundation Year 1 (FY1) doctors, in performing a variety of clinical tasks and understanding of clinical governance.

Methods

A questionnaire, asking participants about how prepared and confident they felt about different areas of practice, was completed by 117 sixth-year Imperial College London medical students and 69 FY1 doctors practicing at St Mary's Hospital, London. The FY1 doctors filled in their questionnaires within 3 months of starting their jobs as junior doctors. Participants were asked to rank their responses to the questions between "strongly disagree" and "strongly agree", and "confident with none" and "confident with all". Both were ranged 1 to 5, respectively.

Results

There were marked differences between the students' and junior doctors' responses. The students were significantly more concerned about their abilities to perform some basic FY1 roles than their FY1 counterparts. Among these included assessing acutely unwell patients (survey score averages: 3.93 to 4.16; $p = 0.0153$) and certifying a death (3.043 to 3.39; $p = 0.0218$).

However, this significant improvement was not consistent across all areas of practice. FY1 doctors did not feel significantly more confident in safely prescribing drugs (3.63 to 3.78, $p = 0.0549$).

Conclusion

This study indicates that there are significant improvements in the self-reflected competencies and concerns of medical students once they transition to practicing FY1 doctors. Despite the learning curve of the first few weeks, this reflects the adequate preparation of their years of medical education, even in adapting to scenarios less commonly experienced by medical students.

However, the confidence in drug prescribing was comparable between the students and FY1 doctors. Although both groups reported being more confident at drug prescribing than certifying a death, there is some concern this did not follow the trend of improving with experience. This is despite rigorous pharmacology learning outcomes throughout medical school, and the introduction of a national prescribing safety exam.

Drug errors are a significant cause of morbidity and mortality. Together with the real possibility of moving the point of full registration earlier to graduation from medical school, this suggests our strategies on teaching pharmacology need to change.

COMPARISON OF STUDENT RESEARCH PROGRAM AND CURRICULUM IN KOREAN MEDICAL SCHOOLS

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Aims

In 21 century, capacity for acquiring new medical knowledge with critical thinking is must needed for the students. And for critical thinking, ability to understand up to date medical knowledge including recent journals and not only its result but also its method and limitation is certainly necessary. In other words, research competencies are essential requirements for medical students.

Methods

Comparing several major medical schools in Korea about research programs and curriculums, how it is organized and operated.

Results

All schools have formal curriculum of student research programs although there are differences in type. But several limitations were found. Which are 'overfree curriculum', 'lack of curriculum articulation' and 'insufficient human resources'.

Conclusion

In Korean medical schools, research programs were included in several schools. But the types were different.

TEACHING RESIDENTS TO TEACH

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Aims

The aims of this exercise is to improve the teaching ability of Family Medicine residents and enhance peer-learner experience.

Methods

As part of their learning journey, Family Medicine residents are assigned peer-teaching topics to deliver as interactive didactics. One observation is that there are aspects of the resident's teaching which can be improved to increase learning outcomes. These include clearly stating the learning objectives, improving quality of slides, actively engaging peer-learners, ensuring that the content delivered is relevant to the learners' needs and summarizing of learning points at the end of the teaching session.

There is a need to guide resident presenters to ensure these aspects are not disregarded. Core faculty guides resident presenters through a set of explicit instructions. Residents' teaching quality is assessed with a pre-determined framework. Formative feedback to the residents after the teaching session is given with aims to improve their teaching skills.

Resident presenters were instructed to consider the following aspects in their preparation:

(1) Quality of slides

(2) Quality of content e.g. content relevance, adequacy and amount, clarity of learning objectives, presence of concluding etc.

(3) Delivery e.g. organization, clarity, audience engagement.

(4) Audience response e.g. whether peer-learners paid attention or were distracted.

On the day of the teaching session, the aspects listed were observed according to a framework. Resident presenters were given feedback on the quality of their teaching.

Results

Ability to teach varies greatly among family medicine residents. The need for relevance and clarity of content compelled resident presenters to study their assigned topics in detail and to deliver the content in a manner that is interesting and easily grasped by peer learners. As a result, the presenters gained in-depth knowledge. With guidance, they are able to deliver peer-teaching with focus on teaching quality. They also appreciate the feedback given by their core faculty supervisor and are motivated to improve.

Conclusion

It is possible and important to groom future teachers, even at the start of the residency program. The significance to my future as an educator is that teaching of teaching skills should, perhaps, be an important part of faculty development.

D1012

FUN FRIDAY: USING MOVIES FOR TEACHING AND LEARNING FORENSIC MEDICINE

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Aims

The CSI effect has also hit medical education, more over Indonesian regulation stated that if there is no forensic specialist available than the police can asked a medical doctor to perform examination in the interest of justice. Indonesian medical students are required to learn some aspect of forensic pathology and clinical forensic medicine. Indonesian Medical Doctor Standard of Competency level for external examination is 4 (does) and for autopsy is 2 (knows how). This has become a challenge in the teaching learning process. One way to accommodate the learning is through movies because they provide fun learning, easier understanding, and memorable.

Methods

Students entering the forensic department for 3 weeks. On the first week they chose their own movie they considered had a forensic aspect, tv serial is not allowed. On the second week, they watch the movie together in class then discuss the forensic theory that apply and whether it is applicable in in Indonesian context. On the third week they had to submit a written group report. The process, reports, and student feedback were analyzed.

Results

There were 9 groups choosing different movies ranging from drama, horror, science fiction, and action genre. One Korean movie and the rest were USA's. Although the student admit that the studying is more fun than lecture, they had a vivid discussion around the topics and the Indonesian context, there is no correlation with the grades.

Conclusion

Movie can be and effective tools for teaching and learning in Forensic Medicine. It can help the student to learn theory and implementation in real life. It also reproducible and help with critical thinking process.

E-BIOCHEMISTRY: AN INTEGRATED PLATFORM FOR ENHANCING CONTEXTUAL AND ACTIVE LEARNING OF MEDICAL BIOCHEMISTRY

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Aims

Biochemistry is a core subject that is taught to first year medical students. It provides the foundation for understanding many biochemical processes critical to human health and diseases, and forms the basis for development of new biomedical applications. Currently, the teaching of biochemistry faces several challenges, including the need for integrating the large body of knowledge and concepts in order to apply them to medical scenarios.

In effort to address these challenges, we initiated a technology-enhanced learning project to develop an integrated platform aimed at (i) delivering contextual learning materials in an easily accessible form to allow students to learn the basics of each biochemistry topic in a self-directed and self-paced manner outside the classroom, (ii) enhancing retention of key points in the learning material, and (iii) enhancing active learning during classroom time.

Methods

The platform leverages on the familiarity of students with current IT devices and platforms to integrate and streamline content delivery, and to facilitate student feedback, specifically through the implementation of 3 components: (i) mobile learning component for content delivery/assessments to enable self-directed learning outside the classroom, (ii) social media component for automated delivery of notes/questions outside the classroom, and (iii) real-time feedback component during classroom time for assessments and identifying gaps in understanding the learning material.

Results

We describe the current progress of the development of this platform and the challenges in (i) delivering the mobile learning component across different devices, and (ii) developing ways of integrating contextual information based on clinical scenarios to reinforce the retention and integration of the learning material.

Conclusion

Technology-enhanced learning methodologies are a potential way of enhancing content delivery in a contextual manner but the implementation of integrated components requires the matching of appropriate technologies with the content and intended learning outcomes.

PILOT STUDY - REDUCING AGEIST ATTITUDES AMONG HEALTHCARE STUDENTS THROUGH A MULTI-DISCIPLINARY HOME CARE PROGRAMME

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Aims

With the rapidly aging population in Singapore, our healthcare professional must be more aware of the challenges faced in caring for the older people. Healthcare professionals may be more susceptible to ageist attitudes as they are frequently exposed to older people. Such attitudes can be detrimental to patient care. As such, we are conducting a pilot study to investigate the effectiveness of a student-initiated project, Tri-Generational Homecare (TriGen), as a platform to reduce ageism among students from various healthcare disciplines.

Methods

TriGen is a student-led, professionals-supported programme involving undergraduate students from four different disciplines (Medicine, Nursing, Pharmacy and Social Work) in National University of Singapore (NUS). The programme is developed to complement Khoo Teck Puat Hospital (KTPH)'s Aging-in-Place (AIP) programme, which aims to reduce hospitalization rates among patients who are frequently re-admitted.

Students undergo three training sessions by healthcare professionals from KTPH and the student organisers. These trainings sessions are designed to address misconceptions towards older persons. They also equip students with skills and knowledge specific to the care of older persons. They are then allocated into teams of two to three students from different disciplines. The teams would carry out fortnightly visits to patients under the AIP Programme over six months. During every visit, the students would conduct routine health checks and evaluate the participants' medical, social and financial issues.

The Kogan's Attitudes toward Old People Scale (KOP) was administered at the start and will be at the end of the programme to assess the programme's effectiveness.

Results

There is currently 52 university students participating in Project Tri-Generational Homecare as team leaders. 44 participants successfully completed the pre-cycle survey. 65.4% of our participants are female. The distribution of faculties was 23.1%, 17.3%, 48.1%, 11.5% from Medicine, Nursing, Pharmacy and Social work respectively. The proportion of students from Year 1, 2, 3 and 4 are 38.8%, 36.5%, 28.8% and 3.8% respectively.

The mean score was 112.3 ± 10.3. The score ranged from 64 - 126. Majority of students (90.9%) had positive attitudes (KOP score above 102). The scores were not significantly different regardless of seniority, gender, disciplines, previous volunteering experiences or whether they stayed with their grandparents.

Pre-cycle data will be compared with post-cycle data when they are collected at the end of last home visit.

Conclusion

The healthcare students have a positive attitude towards the elderly. In comparison to a previous study performed on medical students in Singapore, the mean score is significantly lower (112.3 ± 10.3 versus 135.2 ± 14.9). [1] If the programme is demonstrated to be effective, we aim to upscale the initiative so that more students can benefit from the programme.

Reference
1. Cheong SK, Wong TY, Koh GC. Attitudes towards the elderly among Singapore medical students. Ann Acad Med Singapore. 2009 Oct;38(10):857-61.

D1015

ENHANCING OUR CURRICULUM TO ENABLE PRACTICE

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Aims

Our nascent Family Medicine Residency Program aimed to teach common Primary Care topics through a mix of monthly Saturday afternoon teaching sessions and small group learning sessions to the Residents at their Continuity Clinics during the first 3 years of inauguration. During a review of the core topics taught, we felt that there was a need to restructure our curriculum and delivery process so that Faculty could teach more relevantly, train up junior Faculty in the more difficult topics, and allow Residents a chance to exercise their teaching skills.

Methods

We looked at the Goals and Objectives of the various postings in our Program as a start point for the key topics that were to be learnt by Residents. Thereafter, we collated relevant topics of interest that were taught in our local practice and key Family Practice courses. Thereafter we polled our Faculty to determine which topics they felt should be learnt by residents, taught by Faculty, or brought through by Specialists in various fields. We then organised this curriculum by Content, Outcomes from learning, Resources available, Structure of teaching, and Evaluation, or COuRSE for short.

Results

We listed about 35 Content topics such as Obstetrics and Gynaecology, Neurology, Cardiology; then we listed out various learning Outcomes for each topic, such as "Know the indications for referral for cervical lesions". These were described using terms from Bloom's taxonomy, and there were more than 500 specific Outcomes. Next, we explored the most up-to-date articles, guidelines and available teaching materials as Resources. We determined the Structure of the learning session, with some topics for self-learning, some for small group teaching, and others that we felt were complicated or involving current modalities of investigation or management that required specialist input. We were also able to engage Physician Faculty to join us in their areas of interest or workgroup leaders in Family Practice. Certain topics that would have been more effectively learnt in the hospital setting, such as "Understanding the induction and augmentation of labour" were designated as learning objectives for the Residents' Discipline-specific postings and short attachments. The format of the Evaluations would be through MCQs, Case logs or Case Write ups. During this process of enhancing our curriculum, we found that we had to extend our 2 year teaching schedule to a 3 year schedule in order to be comprehensive.

Conclusion

This method of reviewing our curriculum enabled us to adjust our teaching to fit our learning outcomes; engage our faculty's views and level of confidence and desire for faculty development; and allow Residents to teach under the keen supervision of Faculty. We were also able to combine, redefine or remove some topics that faculty felt were not so relevant in our context, making for a more streamlined and relevant curriculum. With a clearer definition of the learning Outcomes, Faculty and Residents were able to know what was required in their learning and this facilitated their presentations more.

D1016

A STUDY ON SSM3 STUDENT FEEDBACK FROM 3RD YEAR MEDICAL UNDERGRADUATES IN UBD

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Aims

With the growing trend towards producing holistically groomed medical graduates as discussed eloquently in Tomorrow's Doctors, we at UBD after numerous discussions and faculty consent made a change in the curriculum of our undergraduate medical students. During their first three pre-clinical years in the university they are well supported to take three Special Study Modules (SSM) one in each year namely SSM 1, SSM 2, SSM 3. The third is SSM 3 which until 3 years ago was also a research oriented project and expected to be different and unrelated to the previous research topic. The new change implemented since three years ago is the introduction of a COMMUNITY ORIENTED MEDICAL EDUCATION PROGRAMME (COME) in the 6 weeks SSM 3 duration. This module incorporates the principles of Holistic healthcare; Community oriented medical education (COME), Team-based learning whereby students explore the Social determinants of health and transform their experiences according to Bloom`s taxonomy using the principles of Theory into Practice, in other words apply this knowledge to better understand their community and its people.

This pilot study survey was designed to gather feedback from the three cohorts of medical undergraduates who have undergone this new module and completed it successfully. The aim was to get them to reflect on the experiences while doing this module and explore whether it was a useful student-led learning experience.

Methods

Since the study population is very small convenient sampling method was adopted. The study involves the use of an electronic survey with a self- designed questionnaire. This has been piloted on a small group of nursing students who accomplish a community based project almost similar to the medical student's projects. This questionnaire has 18 questions exploring 3 aspects of student experiences in the SSM 3 project activity namely Team work, Interpersonal relationships and Leadership qualities. The survey was sent to the emails of all the students in the three cohorts. The senior two cohorts are currently in medical schools abroad. The total participants invited are 47 of which 35 of them responded with complete surveys. So that was a 74% response rate.

Results

Most of the students found the SSM 3 project very interesting and useful as evident from their comments to an open question at the end of the survey. Statistic Values on most questions were similar as follows: The median average for all the 18 questions fell between 1.00 -5.00 (mean 1.82-4.64) with a std deviation range from (.441-.810).

Conclusion

Most responses overwhelmingly contribute to (80%) strongly positive outcomes in terms of Team work, Interpersonal relationships and Leadership qualities. They all agreed that it was a truly worthwhile learning experience and added few suggestions on how it could be made better for future cohorts.

WHY DO STUDENTS STUDY MEDICINE? INITIAL DATA FROM THE PILOT STUDIES

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Aims

The MBBS curriculum at Newcastle University Medicine Malaysia (NUMed) is identical to that taught at Newcastle University in the UK. However, the pre-university education, social and cultural backgrounds of the students at NUMed are very different. For this reason it cannot be assumed that the needs and challenges experienced by Malaysian medical students during the course are the same as their British counterparts.

By understanding more clearly the social and cultural backgrounds of students at NUMed, including student's motivation for studying medicine, expectations of life as a doctor and their experience of medical school to date student support services will be better prepared to tackle potential barriers to progression through the medical course. The intention is to use this information to tailor NUMed's student support services and recruitment strategy to our unique student population.

This information will ultimately be obtained through a questionnaire issued to all stage 1-3 students. We have piloted this questionnaire on our current stage 5 students and again on our current stage 3 students to ensure its accessibility and usability by our students. This poster presents the initial findings of these pilot studies.

Methods

The questionnaire was designed following an extensive literature search. A collection of previously validated questionnaires from the available literature and previous Newcastle University questionnaires were compiled. Questions were then added or removed as necessary to focus the questionnaire to the aim of the study and our target population.

A pilot study questionnaire was then constructed electronically using survey monkey. The students were emailed an invitation to participate in the pilot study. The email contained a description of the aims and objectives of the study and a link to the questionnaire. Participation was voluntary, students who did choose to participate could omit any question they did not feel comfortable answering.

All students in year 5 of the MBBS Course at NUMed were invited to participate in the pilot study in May 2015. Stage 3 students were invited to participate in the second pilot in July 2015.

Results

The pilot studies revealed some intriguing differences between UK and Malaysian students, with seemingly more NUMed students motivated by parental influence. Fewer students appear to be undertaking work experience prior to medical school and a greater number appear to be from a boarding school background.

Conclusion

The pilot questionnaires have identified that NUMed students have differing educational backgrounds to students in the UK and probably different reasons for undertaking medicine as a career. The initial pilot questionnaire demonstrated that some of the questions needed to be modified for the Malaysian context. The second pilot study confirmed that these changes to the questionnaire had been successful and that it was widely accessible for our students. The questionnaire is now ready for use in a more in depth study to help optimise student recruitment activities and tailor student support services.

D1018

2000 YEAR OLD SCRIPTURE 'THIRUKKURAL' - A TOOL FOR LEARNING AND PRACTISING CARDIAC SURGERY

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Aims

To derive the implementable principles from the ancient universal Tamil scripture - "Thirukkural', which is more than 2000 year old and was written by Thiruvalluvar, as tools for learning and practicing Cardiac surgery.

Methods

'Thirukkural', composed by Thiruvalluvar, which has 1330 verses with each verse called as a 'Kural', containing just one and three quarter lines and each line having 4 words were analysed using explanations and translated verses provided by various popular authors both in English and Tamil. The number of Kurals whichever can be made useful for the purpose of training and practising cardiac surgery were identified.

Results

The principles of many verses described in Thirukkural were found to be interesting and are applicable in modern scientific education particularly in the field of cardiac surgery.

Conclusion

The ancient Tamil scripture - Thirukkural when analysed reveals an interesting fact that many of its principles can be still applicable in training,learning and practising cardiac surgery.The reason for selecting this scripture is that it is a popular literature translated in many languages including English and Latin hundreds of years ago and has been considered as a secular treatise without religious inclinations.

D1019

EXPERIENCE OF A REGULATORY COUNCIL IN REFORMING CURRICULA OF MEDICAL SCHOOLS IN SUDAN TO EMBRACE MEDICAL PROFESSIONALISM CONCEPTS

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Aims

The presentation communicates the experience of Sudan Medical Council (SMC) in providing leadership in partnership with Ministry of Higher education, Ministry of Health and medical schools to include teaching and training medical professionalism in their curricula and CPD programs for interns, resident's specialty training and practicing doctors.

Methods

Situation analysis:

SMC conducted a survey in (24) medical schools out of a total of (33) to assess teaching and training medical students in different areas of professionalism> the main findings are that only 4 medical schools has adequate credit hours allocated, most have 1-2 credit hours mainly addressing medical ethics, communication skills and good medical practice are not adequately addressed, instruction methods are limited to lectures and seminars, small group teaching, case scenarios, role play and videos are not used. Student assessment on the area is minimal (mainly MCQs) thus SMC concluded that there is inadequate teaching time, restricted concept and content, inappropriate instruction methods and minimal assessment SMC remedial interventions:

a) design of a generic teaching module on medical ethics, good medical practice and communication skills for medical schools which is now a pr-requisite of accreditation.

b) For practicing doctors SMC designed and implemented a three days course in medical professionalism addressing ethical and good medical practice and good communication with patients targeting interns, residents in graduate training programs.

c) A more advanced course is implemented addressing specialists and consultants in MOH, Military, Police and private sector as well as academic staff in medical schools.

d) Training of trainers courses are conducted to ensure provision of courses at state and institutional level. Thru conducting TOT courses SMC will create a core of trainers at states and institutional levels and medical/health sciences schools who will provide leadership and ensure sustainability

e) Accreditation standards were updated to include teaching of professionalism as a basic standard

Results

Out of (33) medical schools (18) are fully implementing the generic module guidance on medical professionalism, a further (8) are in advanced stage of preparation for implementation. 11,000 interns, 600 residents in different specialty programs, 800 general practitioners

and 350 consultants were trained in the 3 days training CPD courses on Professionalism. A training of trainers guide on teaching and training of professionalism was prepared by an expert group and is now being piloted.

Conclusion

Key messages:

Regulatory bodies can initiate change through regular updates of standards of medical education and offering supportive guidance.

Forging and strengthening partnerships with other partners in education and health is mandatory.

Building national consensus through active advocacy and creating mutual trust is essential.

Capacity building through training of trainers is essential to assure sustainability.

Conclusions:

Regulatory bodies have a pivotal role in reform of medical education, successful implementation requires: partnerships, collaboration, mutual trust, advocacy and ensuring sustainability.

D1020

CLINICAL ORTHOPAEDICS EXAMINATION SKILLS (CORES) VIDEO - ITS IMPACT ON STUDENTS' LEARNING EXPERIENCE AND OSCE PERFORMANCE

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Aims

Student performance during clinical assessment conducted in the form of Objective Structured Clinical Examination (OSCE) could be affected by inconsistency in the teaching of clinical examination techniques (CET). Standardization in the teaching of CET involves either fixing or following similar sequence and style, which can be reinforced through video demonstration. Given that the examiners and the simulated patients in the OSCE have been trained in a standardised manner, the recall capability of the individual students would be the sole variable in student assessment. We produced a series of instructional videos called Clinical Orthopaedic Examination Skills or CORES, to standardize the teaching of CET and as an effective revision tool.

Methods

The steps involved in the study were:

- Content development of CET in Orthopaedics
- Production of Clinical Orthopaedic Examination Skills (CORES) video
- Quality assurance of CORES video
- Pre-exam just-in-time video-screening workshop
- Post-workshop student feedback

A mixed method cross-sectional prospective cohort study of 260 Year 3 undergraduate medical students was conducted after successful video production. 128 students attended the just-in-time video-screening workshop 3 days prior to the OSCE assessment. Post-video workshop feedback was obtained from the attendees using a self-administered questionnaire. The quantitative questionnaire items were scored on a 5-point Likert scale and were analysed using Microsoft Excel. The qualitative comments were analysed through thematic coding; these were themed as positive comments and suggestions for future improvements. Students' OSCE performance at the end-of-year examination were compared between attendees and non-attendees and analysed in terms of average scores obtained and examiner's comments.

Results

Approximately 95% of attendees felt that the video series had standardised the CET and acknowledged the videos for their clarity and brevity. About 85.5% felt that their understanding of common Orthopaedic conditions has improved. Most (90.9%) considered the videos to be relevant to the curriculum requirements. In general, the positive comments for the videos included standardized teaching, clear and concise instructions, useful resources to supplement didactic teaching and

lectures. Overall suggestions for future improvements included to summarize test sequence, cover more clinical conditions, to simplify certain tests, to avoid repetition and abrupt changes between tests. Analysis of the students' OSCE performance showed that video workshop attendees scored higher on average (74.01%) compared to non-attendees (61.88%). Furthermore, proportion of attendees (37.2%) receiving positive qualitative remarks from the examiners was higher compared to that of non-attendees (9.1%).

Conclusion

The use of videos on standardised CET in Orthopaedics gained positive perception from the students and improved their performance in OSCE. We suggest video as an effective tool for pre-assessment revision.

FLIPPED CLASSROOM IN NURSING EDUCATION: A PILOT SESSIONS AMONG FIRST AND SECOND YEAR STUDENTS IN JAPAN

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Aims

One-way lectures have been noted to have limitations to develop self-directed learning and problem solving skills in healthcare professionals education. Flipped classroom is one of the different educational strategies in nursing education. In undergraduate nursing professional schools, flipped classroom is still new and not very prevalent in Japan. This strategy is newly tried among first and second year nursing students at Yatsumonji Gakuen, Mito, Japan. Each session consists of a pre-session assignment, a small group discussion with six members, group presentations, and a plenary wrap up lecture. This study reports perceptions among the nursing students.

Methods

A paper-based questionnaire was administered after flipped classroom sessions on three occasions in 2015. The questionnaire consisted of five questions such as understanding the content, format of the sessions, perceptions about face-to-face small group discussions, free comment on the sessions.

Results

There were a total of 42 second year students and 41 first year students. The second year students had three flipped classroom sessions and the first year students had two. A total of 125 students were registered in three sessions. Among them, all attendants except few who were absent responded to the questionnaire. The majority of the respondents favored the new session format, and had positive response to small group sessions and exchange opinions among students. A lot of students commented that they were engaged in the session and were not sleepy during the sessions. They also understood the content better than before in the sessions.

Conclusion

Nursing students favored and had positive responses to the flipped classroom sessions in this study. The sessions seemed to have promoted better understanding, more exchange of information among students, and active learning among the students. Further implementation and evaluation is required to see the changes in learning activities among the nursing students.

D1022

IDENTIFICATION OF LEARNING STYLES IN FIRST YEAR UNDERGRADUATE MBBS STUDENTS OF A PRIVATE MEDICAL SCHOOL IN WESTERN INDIA

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Aims

The challenge of imparting large amount of knowledge within a limited time period in the way it is perceived, retained and effectively interpreted by students is considerable. This has resulted in crucial changes in field of medical education with a shift from didactic, 'teacher centered', to use of interactive, 'student centered' learning. In context to this, knowledge of learning styles can be useful as it fosters student centered learning. VARK learning style inventory is one such tool which measures 4 sensory modalities used for determining individuals learning style : Visual (V), Aural (A), Read/Write(R/W) and Kinesthetic (K). Although learners can use all these sensory modes of learning, any one mode is often seen to be dominant and preferred by an individual. E.g. Visual learners learn through seeing drawing and picture based teaching tools. Auditory learners learn by listening to lectures and exploring material through discussions. Reading/writing learners learn through interaction with textual materials, whereas kinesthetic learners learn through touching and experiences that emphasize on physical involvement. Knowledge on learners' learning styles is vastly underutilized approach towards improvement in classroom instructions. Therefore we screened for preferred learning styles of first-year medical students in order to develop appropriate learning approaches according to their need.

Methods

A cross sectional study was designed to document various preferred learning styles in first year medical students using VARK inventory tool. Prior permission was taken from VARK developers for the research. Students were oriented to project objectives first and were also explained that their participation was voluntary. VARK questionnaire was administered to the participating students and responses were collected. Learning preference for individual was determined by the most frequently used sensory domain by the student whereas for entire class the entire data was seen collectively.

Results

Eighty nine students participated out of batch of 100. Proportion of females was 60.67%. Mean age of participants was 17.6 years. Majority (80%) students had schooling from state board. Remaining 20% had studied from CBSE, ICSE and IB therefore association between learning style and board could not be done because of the skewed distribution. No association of gender was observed with learning styles (p value>0.05). Different types of learning styles were identified based on frequencies. Majority of students exhibited multimodal learning style preferences. Most prevalent uni-modal learning style identified was 'K' followed by 'A', 'V' then 'R/W'. Predominant bimodal learning were 'VA', 'VK', 'AR', 'RK' and trimodal learning style was 'VAR'.

Conclusion

There can be different types of learners in a single batch so a single approach of teaching, might not work well for entire batch. For the current batch we found that teachers can incorporate more of Kinesthetic, Auditory and Visual activities rather than Reading/Writing type teaching-learning activities. Medical educators' awareness of various learning styles can help in designing 'teaching-learning' methods that match students' learning styles. This can also help in motivating and developing interest among students and also create effective and significant learning environment in classrooms.

MEDICAL STUDENTS KNOWLEDGE AND ATTITUDE IN RELATION TO ETHICS IN HEALTHCARE - AN EVALUATION OF YEAR 2 MEDICAL STUDENTS

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Aims

The evolving doctor-patient relationship and increasing moral dilemmas (i.e. concept of extraordinary means, medical futility and withholding/withdrawal of treatment) brought on by medical advancement have led to the rising importance and relevance of medical ethics in clinical practice and medical education. The revised undergraduate medical curriculum at the NUS Yong Loo Lin School of Medicine (YLLSoM) has included an integrated 'longitudinal track' in Health Ethics, Law and Professionalism (HELP) since AY2008-09. Phase II (Year 2) of the HELP track aims to complete students' basic knowledge of ethics, law and professionalism by integrating pertinent topics in ethics and law with the teaching of pathology and patterns of diseases in the medical curriculum. This cross-sectional study aims to evaluate how the HELP track at the NUS YLLSoM affects Year 2 medical students' attitudes and knowledge towards ethical decisions.

Methods

Anonymized questionnaires assessing knowledge and values of medical ethics, conflicts between autonomy and beneficence, respect for human rights, confidentiality, advanced care planning, mental capacity and end of life care were administered to 81 Year 2 NUS YLLSoM students at the end of the academic year. Information on demographics were also collected.

Results

We found that the majority of Year 2 students understood principles of medical ethics (mean: 88.3%). However, there was a vast variance in judgements and opinions when asked to consider ethical decisions and issues in a clinical setting (confidentiality and privacy, withholding/withdrawing medically futile interventions, patients' right to self-determination (of treatment, life)). For instance, in the setting of resuscitation, 64.2% of them agreed or strongly agreed that all patients should receive resuscitation if resources were available. With regards to with-holding a diagnosis of cancer from a patient, 25.9% of students felt that it was ethical to defer to family wishes if asked to do so.

Conclusion

As medicine becomes increasingly globalized, doctors will need to be equipped to confront the inevitable and complex ethical conflicts arising from diverse cultures, beliefs, values and ideas. As our study shows, pre-clinical Year 2 students have a good grasp on key principles and values of medical ethics and lack the knowledge for application when faced with a clinical dilemma. The most likely reason for this would be minimal exposure to real patients and case-based scenarios. This is a first evaluation in pre-clinical years and we will be conducting similar studies in clinical years to evaluate if exposure to patients during clinical years changes their perception. Moving forward, NUS YLLSoM will be integrating more real case-based ethics and professionalism sessions in all five phases of the medical curriculum.

D1024

VALIDATION OF ASSESSMENT FOR IMAGE EVALUATION FOR INTERNSHIP RADIOGRAPHERS

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Aims

The Clinical Educators of the Department of Diagnostic Radiology (DDR) have developed an assessment tool to assess the image evaluation ability/skills of non-local trained Radiographers seeking job opportunity in DDR. The objective of this assessment is to ensure that these non-local trained Radiographers image evaluation ability/skill is on par with our local graduates. Image evaluation is one important skill/ability that a Radiographer must have, without this skill/ability, Radiographers will be producing images that are of sub-optimal diagnostic value.

The primary aim of this study is to validate the assessment tool we have developed for the assessment of image evaluation on internship radiographers. A validation of this assessment tool is neccessary to establish its reliability and validity.

Methods

All internship Radiographers working in DDR will be invited to participate in this study. They will be shown a total of 15 sub-optimal images in an controlled environment. The selection of these 15 images will be done under the consensus of 8 experts in General Radiography. Each participant will need to write on the assessment form what causes the image to be sub-optimal and provide suggestion for improvement. Participants will be given a total of 75 minutes to complete the assessment. The completed assesment forms will then be double marked by two clinical educators using a scoring rubics as a guide.

Results

Data collection is still in progress, estimated to be completed only in end of August.

Conclusion

Data collection is still in progress, estimated to be completed only in end of August.

E-POSTER PRESENTATION – SESSION 1B

STATION 1

D1025 **OWSAT. A Design-Based Research Approach to the Creation of a Tool to Identify Station-Level Errors in OSCE**
Kathy Brotchie, Australia

D1026 **The Effects of Role-Playing on Standardized Patients - A Systematic Literature Review**
Rathi Mahendran, Singapore

D1027 **Are Internal Medicine Residents Ready to Transition to the Role of Senior Resident on Call**
Ho Quan Yao, Singapore

D1028 **Perception of Sri Lankan Medical Students About Teaching Methods in Medical Schools**
Chamila Mettananda, Sri Lanka

D1029 **Real Time Surgical Skills Evaluation Software for Orthopaedic Surgery Residents**
Chuan Weiliang, Singapore

D1030 **Evaluation of Learning Style Preferences Among Medical Students in Universiti Putra Malaysia**
Puteri Shanaz Jahn Kassim, Malaysia

D1031 **Comparing Collaborative Inter-Professional Skills Through Clinical Simulation of IPE and Non IPE Students**
Endang Lestari, Indonesia

D1117 **International GME Reform: Characteristics of Institutions and Perceptions of Institutional Leaders and Clinician Educators on Accreditation by the Accreditation Council for Graduate Medical Education – International**
Sophia Archuleta, Singapore

STATION 2

D1032 **Exploring the Use of the Conscientiousness Index in an Internal Medicine Residency Programme in Singapore**
Faith Chia, Singapore

D1033 **Effectiveness and Sustainability of Surgical Education in Medical Volunteerism - Our Experience With Hand Surgery in Cambodia**
Sabrina Cheok, Singapore

D1034 **Use of a Formative Assessment Tool to Support Contextualized and Active-Learning of Molecular Genetics for First-Year Medical Students**
Yeong Foong May, Singapore

D1035   **Translating ESME Principles into Action - Brunei Experience**
Azim Siraj Azimuddin, Brunei

D1036   **Confident About Confidentiality**
Kevin Kow, United Kingdom

D1037   **The Development of Learning and Evaluation Tools for Examination of Sodomy Victim**
Oktavinda Safitry Daud, Indonesia

D1038   **A National Survey for Dental Post-Graduate Year Physicians (DPGY) Program Satisfaction in Taiwan, From 2013-2014**
Chen Ching Yi, Taiwan

STATION 3

D1039   **Moving Forward with Patient Recruitment and Retention**
Siva Shanmuga Priya Munusamy, Malaysia

D1040   **Summative Assessment Using Competency Based Testing (CBT) to Assess Improvement Before and After E-Learning Implementation for the Singapore Neonatal Resuscitation Course**
Poon Woei Bing, Singapore

D1041   **Effectiveness of Mobile Technology for Faculty Development of Healthcare Professionals**
Ryan Leow, Singapore

D1042   **Developing and Evaluating an Interactive Online Concept Map for Evidence Based Practice Teaching in Undergraduate Medical Education**
Marianne Holm, Hong Kong S.A.R.

D1043   **Development and Assessment of Multimedia Training in Resource Poor Countries**
Chris O'Callaghan, United Kingdom

D1044   **Effect of Using the Da Vinci Skills Simulator on Robotic Skills Acquisition in Residents**
Lu Jirong, Singapore

D1045   **Fourth Year Medical Student Perception on Problem Based Learning Curriculum in Faculty of Medicine Bandung Islamic University**
Eka Nurhayati, Indonesia

STATION 4

D1046   **Do Novel Computer-Based Practical Spot Test Well Received by Medical Undergraduates?**
Buddhika Wijerathne, Sri Lanka

D1047   **The Predominant Learning Approaches of Medical Students**
Sonali Prashant Chonkar, Singapore

D1048   **Enabling Technologies for Anatomy Learning: "Dream, Design and Print in 3D"!**
Karthik Harve Subramhanya, Singapore

D1049   **Acceptability and Perceived Value of Simulation Based Medical Education in Malaysia**
Tim Smith, Malaysia

D1050   **A Paediatric Student Internship Preparatory Bootcamp for Medical Students in Their Penultimate Year**
Elis Lee, Singapore

D1051   **Postgraduate Residents Knowledge, Perception and Attitude Towards Evidence-Based Practice in ACGMEI Program in Qatar**
Manasik Hassan, Qatar

D1052   **Do We Truly Assess What We Teach? Technology Powered Curriculum Gap Analysis**
Gerald Thrush, United States of America

D1025

OWSAT. A DESIGN-BASED RESEARCH APPROACH TO THE CREATION OF A TOOL TO IDENTIFY STATION-LEVEL ERRORS IN OSCE

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Aims

The presence of errors in Objective Structured Clinical Examination stations undermines the validity, reliability, feasibility and educational impact of this popular clinical skills assessment format. It is essential that OSCE stations perform as expected, providing a valid and reliable assessment for high-stakes examinations. Station-level flaws may be introduced by academics with poor assessment literacy, unaware of the intricacy involved in station writing. Removal of errors prior to the assessment should form part of a quality improvement cycle, and may benefit from a structured approach. The OSCE writers and reviewers' station analysis tool (OWSAT) has been created to assist with station-level error detection.

Methods

A design-based research approach to the development of a tool to aid in the quality improvement of OSCE station writing was undertaken. Using a three phase iterative process, the tool emerged from concerns raised at a post-OSCE debrief session and involved testing against a database of internationally sourced stations and peer review at conference workshops.

Results

A tool to assist OSCE writers and reviewers identify station level errors was created in both a paper and online formats. Consisting of twenty questions to apply to a structured review, OWSAT aims to facilitate identification and remediation of flawed stations.

Conclusion

The creation of OWSAT provides an opportunity for a structured approach to station-level error identification. Further research is required to explore the utility of this tool.

THE EFFECTS OF ROLE-PLAYING ON STANDARDIZED PATIENTS - A SYSTEMATIC LITERATURE REVIEW

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Aims

Standardized patients (SPs) are widely used in medical training for history taking, physical examination and clinical skills, and performance assessment. While these important roles have been extensively studied, the research has focused mainly on the reliability, validity, applicability and feasibility of their use. Little attention has been paid to the effects of repetitive stimulation and role-playing on the SPs themselves. Given the increasing reliance on SPs, and especially since children and adolescents are also now trained to role-play, it is important to understand the SPs experiences as these could impact their performance. This systematic literature review was undertaken to determine the extent to which effects on SPs have been investigated, the effects of role-playing and how it affects SPs.

Methods

The Preferred Reporting Items for Systematic Reviews and Meta-analyses (PRISMA) was used for this review. The PubMed, CINAHL, SCOPUS and PsychoINFO data bases were searched for relevant journal articles using key search terms. Reference lists of screened papers were also searched for additional papers eligible for inclusion in the review which was done in February 2015. The SP was defined as an individual who was specifically trained to consistently portray one or more medical conditions for supporting medical education and assessment. Both qualitative and quantitative studies were included, as were those that reported the effects of role-playing. Articles that reviewed SP program outcomes and motivations towards being a SP were excluded.

Results

A total of 6685 articles were captured with a further four from the review of the Reference lists. Independent reviews of the titles and abstracts against the selection criteria by two reviewers yielded 31 articles for a full text review. Of these 18 received in-depth analysis.

The literature review revealed a dearth of research on the effects of role-playing on SPs. There were many exploratory studies and conditions portrayed and the duration and intensity of the SP experience varied greatly making comparisons difficult. Nonetheless, while SPs reported general feelings of satisfaction in role-playing, improved confidence and feeling valued in their roles, additional experiences in role-playing fell within three groups: physical effects, psychological/emotional experiences and the resulting behavioral changes including skills acquisition. Physical effects included the complaints of 'fatigue, tiredness and exhaustion', and nausea and loss of appetite, tense muscles and headaches during and after the session. Psychological experiences included dissatisfaction with their own performance, feeling anxious and nervous, worried and feeling vulnerable. In their own skills, SPs reported communicating better with doctors, achieving increased medical knowledge, awareness of their own body and medical care they received, and the ability to assess the quality of care delivered by doctors.

Conclusion

The findings indicate that the needs of SPs should not be overlooked in their engagement and training for teaching and in examinations. Careful selection and assignment to roles, and adequate debriefing are supportive measures that are required to ensure they function optimally for students' learning needs. As always there is a need for more rigorous research to fully understand SP issues.

ARE INTERNAL MEDICINE RESIDENTS READY TO TRANSITION TO THE ROLE OF SENIOR RESIDENT ON CALL

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Aims

Internal Medicine training in Singapore has changed with the adoption of the Accreditation Council of Graduate Medical Education (ACGME) framework for residency in 2010. Not only has the number of years a resident may have worked before becoming a senior resident shortened, adherence to an 80 hour work week, increased numbers of trainees and increased supervision may result in decreased experience and autonomy. There is concern amongst both faculty and residents that the graduating residents are not prepared to take on the role of senior resident, particularly on call. Our study aims to assess how ready internal medicine residents perceive they are to take on this role and whether there are gaps in training that need to be bridged.

Methods

An online survey was developed after a focus group discussion. This anonymous survey was distributed via email to residents in their final year of training in the National Healthcare Group Internal Medicine Residency Program and first year senior residents who have graduated from the program. The survey covered demographics, postings, confidence with procedures, clinical decision making and communications, as well as qualitative comments on improving the transition to the role of senior resident on call. A 9 point Likert scale was used (0 completely disagree to 9 completely agree).

Results

37 of the 63 residents approached responded to the survey (58.7%), out of which 25 were first year senior residents and 12 were third year residents in the internal medicine program. 30% were male and 70% were female. A majority (86%) had graduated from Yong Loo Lin School of Medicine, National University of Singapore. The mean number of years since graduation was 5The residents were confident in being able to supervise juniors in procedures and reviewing cases (7.19 +/- 1.13 and 7.54 +/- 0.86 respectively). However, they worried that they would not be able to perform procedures (6.28 +/- 1.85) or make the correct clinical decisions on call (6.92 +/- 1.57). The procedures they were most confident in included insertion of intra-arterial lines (6.7 +/- 3.26) and central lines (6.46 +/- 3.56) where most residents had performed more than 10 of each procedure. They were least confident inserting chest tubes (4.84 +/- 3.62) with a majority having done less than 5 chest tube insertions. With regard to making clinical decisions, they were most confident in deciding extent of care (7.33 ± 0.86) and least confident in deciding when a patient should go to the intensive care unit (6.50 +/- 1.44) and answering urgent referrals from other departments (6.22+/- 1.46). The residents felt that the program had prepared them for general ward calls (7.14 ±1.03) but felt ill-prepared for calls in the medical intensive care unit (ICU) (5.41 ± 1.80).

Conclusion

Internal Medicine residents felt a significant level of concern transitioning to the senior resident on call in the ICU and worry about making correct clinical decisions and performing certain procedures. We need to take a step back to look at our curriculum to better prepare residents for this role.

PERCEPTION OF SRI LANKAN MEDICAL STUDENTS ABOUT TEACHING METHODS IN MEDICAL SCHOOLS

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Aims

Although English is a second language, Sri Lankan medical students are also taught using the same teaching methods used in developed countries where English is the 1st language because there are no data on Sri Lankan medical students' views and expectation about the teaching methods used in medical schools. Therefore we aimed to evaluate Sri Lankan Medical students perception on teaching methods used in medical schools.

Methods

We evaluated views and expectations on teaching methods of 3rd and 4th year medical students of Faculty of Medicine, University of Kelaniya, Sri Lanka in an observational study using a self-administered questionnaire.

Results

102 3rd-year (mean age 23.4 years, female 64.7%) and 96 4th-year (mean age 24.3 years, female 74.0%) medical students volunteered for the study. All students have had > 55/100 marks for English language at Ordinary level (O/L) (year 11) exam, but only 88% had > 55/100 marks for English language at Advanced level (A/L) (year 13) exam. Majority of students were form not so rural areas; Gampaha - 33%, Kurunegala -15% and Colombo - 14%. Half of the students were from families where their parents have studied only up to O/L.

78% students preferred lectures while 10%, 7% and 6% liked problem based learning (PBL), practical sessions and tutorials respectively as the teaching method of choice, but there was no significant association with their English results. The main reasons why they liked lectures were that they can get expert knowledge (57%) by attending lectures and that the lecturer knows the subject well (12%) than when it is taught as a PBL by few non-experts.

Majority preferred to have 45 minutes long (74%), multimedia assisted (89%), interactive (75%) lectures. More than 85% students liked if the lecturer highlights the important aspects and especially if they relate it to exam and to practice as a doctor, use simple language to explain the subject and if handouts were given at the end. However, only 52% and 57% students viewed respecting students and giving cognitive breaks in-between lectures are important.

The main reasons for students to attend a particular lecture depended on if the lecturer is a good teacher (87%), importance of topic to exam (82%) and to carrier as a doctor (74%). But the decision to attend lecture was not much related to appearance of the lecturer (13%), how famous the lecturer is (29%), the fact that lecture handouts are not given(18%) or the lecture being compulsory(39%).

Conclusion

Views and expectations of this sample Sri Lankan medical students on teaching methods used in medical schools are more or less similar to that of developed world.

D1029

REAL TIME SURGICAL SKILLS EVALUATION SOFTWARE FOR ORTHOPAEDIC SURGERY RESIDENTS

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Aims

Residency programs in Singapore are acreditated by the Accreditation Council for Graduate Medical Education International (ACGME-I). The program mandates a structured approach to the teaching and evaluation of the competencies of the residents.

Surgical skills are currently evaluated and audited via case rating forms and surgical logbooks. However, this remains unstructured and doesn't allow the evaluation of a residents' progress during the program.

Our aim is to present the electronic surgical skills training tool to be implemented at our institutions' Orthopaedic Surgery Residency Program- Orthobullets SkillMaster.

Methods

Orthobullets SkillMaster is an online surgical skills evaluation tool already implemented in a few American Orthopaedic residency programs. It consists of a list of orthopaedic surgeries which residents are expected to gain competency in as they progress through the program. Each type of surgery is divided into various components (pre op planning, positioning of the patient, surgical approach, actual surgery, wound closure, post op care and long term follow up).

Residents are able to enter a component to be evaluated via the website immediately before or after the surgery, and the assessor will then be able to grade that component of the surgery from 1 to 5.

As a resident progress through the program, the website is able to track the number of procedures, the types of procedures as well as the improvement in competency in each of the components of the surgery.

Results

The use of this software was piloted in NUHS Orthopaedic Residency Program in July 2015. 5 residents ranging from R2 to R5 have started to use the program.

Residents have found the software intuitive, and relevant to the volume and variety of surgical cases presenting to our institution. However, refinements in the software are required to adapt it to our local training guidelines and context. Additionally, the audit and tracking of a residents' surgical competency can only be evaluated some time after implementation.

Conclusion

This educational tool, specifically designed for the development of orthopaedic surgical skills training, is promising and aims to address the current deficiencies in tracking a residents' improvement in surgical skills through the program.

D1030

EVALUATION OF LEARNING STYLE PREFERENCES AMONG MEDICAL STUDENTS IN UNIVERSITI PUTRA MALAYSIA

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Aims

Introduction: Learning style is an individual's consistent way of perceiving, processing and retaining new information. Students have preferences towards different learning styles, which is the reason for the diversity seen with regards to how students receive information. Acknowledgement of these learning styles can provide useful information for improving quality of teaching and learning experience of students.

Objective: The aim of this study is to determine the predominant learning styles among medical students in Universiti Putra Malaysia and its associated factors by using VARK questionnaire.

Methods

Method: A cross sectional study was conducted among 296 randomly selected medical students in the Faculty of Medicine and Health Sciences, University Putra Malaysia within a period of 3 weeks. The VARK questionnaire (7.2) was used to categorize the learning preferences as visual (V), auditory (A), read and write (R) and kinaesthetic (K). Demographic data was also collected using self-administered questionnaire. Descriptive statistics were used to identify the learning styles of students. Participants were then divided into two subgroups, pre-clinical and clinical students, and the results obtained from the instrument were compared to assess the differences of learning style preferences between these two subgroups.

Results

Results: Among 249 students who returned the completed questionnaire, the majority (58.2%) of the students preferred more than single (multimodal) mode of learning. Multimodal learners are further grouped into either quadrimodal, trimodal and bimodal learners. Among them, majority (30.9%) are quadrimodal learners. 41.8% of the students preferred single (unimodal) learning preference. Majority of the unimodal learners are kinesthetic (15.3%), followed by auditory, read/write and the least being visual (5.6%). Further analysis did not reveal any significant association between learning styles and demographic factors. However, there is a significant difference between preclinical and clinical students with respect to learning style preferences (P=0.04) as majority of preclinical students are multimodal learners in comparison to clinical students.

Conclusion

Conclusion: Knowing the various learning styles of the students will not only assist medical educators in providing instruction according to the student's individual preference, but it will also motivate educators to employ a combination of teaching techniques by using a variety of leaning tools to facilitate active learning in an effective learning environment. However, more research on this topic needs to be undertaken before the association between learning style preferences and teaching and learning strategies is more clearly understood.

D1031

COMPARING COLLABORATIVE INTER-PROFESSIONAL SKILLS THROUGH CLINICAL SIMULATION OF IPE AND NON IPE STUDENTS

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Aims

Well-functioning of inter-professional health care team is a key to delivering effective and safe health care. Inter-professional education (IPE) has been identified as mechanism to improve communication, trust and collaboration among health care team member. This study aimed to compare collaborative performance of inter-professional groups that participated 4 weeks inter-professional education (IPE) to that of non IPE groups.

Methods

A total of 40 students from medical, nursing and midwifery schools were the subjects of the study. 20 of them joined in 4 weeks of IPE class (the treatment group), while the other 20 students acted as the control group; were requested to have self-learning with course materials similar to those provided for the treatment group. They divided into 10 groups and had to perform simulations as health care team in three cases normally encountered in the primary health care setting. The simulations were videotaped and the skills evaluated were rated by four examiners. An examiner guide was developed accordingly. Independent T-test and Mann-Whitney U statistical analysis were utilized to test the hypothesis.

Results

Within the three cases simulated the score of interpersonal skills of treatment groups was mostly higher than that of the control groups ($p=0.000$, 0.000, 0.031). Inter-professional skills were increasing week by week, remarkably of inter-professional communication skills, skills to perform tasks regarding profession's authority; skills of respecting the role of other professions, skills to provide opportunities for other professions to contribute. Meanwhile those skills of the control group remained fluctuated.

Conclusion

IPE demonstrated to equipped students with the inter-professional skills, and the skills increased week by week. A model of individual inter-professional skill assessment should be further considered.

INTERNATIONAL GME REFORM: CHARACTERISTICS OF INSTITUTIONS AND PERCEPTIONS OF INSTITUTIONAL LEADERS AND CLINICIAN EDUCATORS ON ACCREDITATION BY THE ACCREDITATION COUNCIL FOR GRADUATE MEDICAL EDUCATION - INTERNATIONAL

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Aims

Graduate medical education (GME) is responding to calls for reform by adopting competency-based frameworks and, in some countries, by rapidly implementing external accreditation systems. The Accreditation Council for Graduate Medical Education-International (ACGME-I) began accrediting institutions in 2009. This study aimed to describe ACGME-I accredited institutions and explore perceptions of their leaders and clinician-educators (CEs) regarding preparedness, challenges and initial impact of accreditation.

Methods

Cross-sectional surveys of all ACGME-I accredited institutions' leaders and CEs were conducted from June 2013 to June 2014. Eligible participants were identified through institution websites and GME offices. Combinations of web- and paper-based surveys were employed.

Results

Completed surveys were received from 24 (70.6%) of 34 institutional leaders and 274 (76.3%) of 359 CEs, representing 3 countries, 8 academic medical centers, 2 affiliated teaching hospitals and 47 residency programs. Leaders and CEs felt prepared in the domains of knowledge and implementation of the competencies. Top challenges identified were excessive "demands on faculty time" and "bureaucratic procedures." The majority of both groups perceived a positive impact of accreditation on all learner, faculty, institution and patient outcomes; except most perceived no impact on patient satisfaction. Overall, 79.2% of leaders and 75.8% of CEs agreed or strongly agreed that seeking ACGME-I accreditation was worthwhile.

Conclusion

This study indicates that despite the challenges identified, initial perceptions of the impact of ACGME-I accreditation are positive. Findings from this study may be useful to institutions and countries considering similar GME reform, though long-term outcome data are needed.

D1032

EXPLORING THE USE OF THE CONSCIENTIOUSNESS INDEX IN AN INTERNAL MEDICINE RESIDENCY PROGRAMME IN SINGAPORE

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Aims

Professionalism amongst residents is multi-dimensional and a difficult concept to define. While clusters of professionalism have been described; namely adherence to ethical practice, effective interactions with patients, effective interactions with other healthcare workers, reliability and commitment to autonomous maintenance/improvement of competence of oneself, others and systems, many tools used for the assessment of professionalism are confined to clinical situations and practice.

It has been shown that negative behaviour as a student is related to subsequent negative behaviour as a medical professional, and that students who do not comply with simple administrative tasks at the beginning of a module had poorer success in final examinations. Conscientiousness with administrative tasks in the context of a resident's role as a learner is a component that is often not taken into account or even assessed when evaluating professionalism.

We aimed to explore the use of an objective measure of this aspect of professionalism.

Methods

Our programme was interested in the work by Maclaughlan et al on the conscientiousness index (CI) which provides a scalar measure of conscientiousness with administrative tasks. We also wanted to emphasize to the residents the importance of fulfilling their roles as learners. Faculty members voted on components to be included in our version of the CI, which includes

1. Attendance at teaching activities
2. Submission of administrative data
3. Submission of evaluations done with faculty
4. Uncatergorised events such as absence without leave and failure to register for mandatory examinations

Results

We started to use the NHG IM CI in the 2013/2014 academic year. Residents were informed that this was part of the evaluation of professionalism and what the components were. They are also given feedback on their CI scores at each semi-annual feedback session. The CI has also been incorporated as one aspect when choosing the resident of the year award. Interestingly, the median CI of the residents per quarter has been on an upward trend since implementation. We have also picked up several residents who were struggling with external stressors as their CI dropped dramatically before other evaluations were affected. The CI is not correlated with medical knowledge scores.

Conclusion

The CI is a useful tool to measure one aspect of professionalism and deserves further exploration.

D1033

EFFECTIVENESS AND SUSTAINABILITY OF SURGICAL EDUCATION IN MEDICAL VOLUNTEERISM - OUR EXPERIENCE WITH HAND SURGERY IN CAMBODIA

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Aims

The nature of international medical volunteerism has evolved significantly over the years, with an increased emphasis on providing sustainable, long-term development as well as empowerment to local physicians. Success of such a programme requires involvement and dedication of highly-skilled medical professions with a structured process of education based on the needs of the community.

The surgeons in this team have been actively and regularly involved with a local Cambodian hospital to develop a community-based and outcome-oriented Hand Surgery training programme from 2013 to 2015. An instructional design model was used to design and develop the program. It was delivered utilizing online educational resources augmented with structured hands on workshops with on the job training. The main modules for the structured topics included Microneural repair, Tendon repair, fracture fixation and an educational technology workshop for faculty development to provide skills for the local surgeons to produce their own educational materials in the Khmer language, as an open education resource, and facilitate ongoing education and sustainability of hand surgery in Cambodia.

The aim of this study was to evaluate the effectiveness and usefulness of the program as perceived by stakeholders in hand surgery on Cambodia.

We developed a survey and collected data with participants from 2013 to May 2015. Individual interviews will be conducted with 12 participating Cambodian surgeons in Oct 2015. The interviews will focus on participants' knowledge and self-efficacy changes in hand surgery competencies after their participations of the program. These interviews will be tape-recorded and subsequently transcribed.

Methods

The mixed-method was used in this study, including survey as well as individual interview. The survey data was analyzed in SPSS - a statistical software. For the qualitative data from the semi-structured interviews, they will be analyzed with the guidance of the grounded theory.

Results

Based on a preliminary survey conducted in May 2015, our program has significantly proven to increase knowledge base and surgical competencies in the field of Hand Surgery, producing teachers out of local surgeons and enabling an effective transfer of knowledge and skills. Using a numerical scale, local surgeons reported an increased confidence in individual knowledge, competency and teaching capability in the 3 most common conditions: upper limb deformities, congenital hands and brachial plexus injuries.

Expected interview results: We expect the interview results to supplement and provide richer information beyond the survey data.

Conclusion

We believe that this is a universal and easily translatable curriculum design and deployment that can be applied to all types of medical volunteerism. We advocate that this be the new standard of medical volunteerism- by augmenting and optimizing resources and measures already in place in the host country, and thereby ensuring sustainable development and empowerment of local physicians.

D1034

USE OF A FORMATIVE ASSESSMENT TOOL TO SUPPORT CONTEXTUALIZED AND ACTIVE-LEARNING OF MOLECULAR GENETICS FOR FIRST-YEAR MEDICAL STUDENTS

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Aims

A common problem faced by 1st year medical students is the learning of conceptual topics such as molecular genetics, which is typically taught didactically. Students, especially those without a background in biology often find it hard to understand genetic concepts without the proper context. Recent research has shown that learning is best reinforced by active engagement through learning with a contextual framework. To assess the effectiveness of this approach for the learning of molecular genetics, the use of a formative online assessment tool was administered after each lecture during class for a 3-day lecture on the topic.

Methods

In this pilot study for 301 first-year Medical students at the Yong Loo Lin School of Medicine, NUS, the content from a series of lectures was distilled from 3 hours from 6 hours. This enabled the use of the remaining 3 hours to incorporate the formative self-assessment component after each lecture. The formative assessments were delivered using Google Forms that allowed the students to discuss the questions in the lecture theatre before submitting the answers online. To contextualize learning for the students, the questions in the formative assessments were designed to include diseases linked to mutations so as to demonstrate the links between molecular genetics and diseases. As the answers were submitted online to Google Forms, the class answers could be reviewed before the end of the class so that students had a chance to learn if their answers were correct and correct any misconceptions. For extended explanations of other errors and additional queries raised by students in the Google Forms, comments were emailed to students after the lectures so students can review the feedback when they have more time.

Results

Overall, the students' participation in the in-class formative assessments after each lecture was good, with 151 (50%) responses after the first lecture, 101 (34%) responses after the second lecture and 54 (18%) responses after the final lecture. This early experience provides a good framework for extending such active-learning approaches to other conceptual topics in preclinical teaching. In spite of the relatively inconsistent in-class participation from students, the feedback from students in a perception survey conducted after the lectures revealed that students were mostly favourable of such active-learning activities. This was especially so for students with limited Biology background before joining the medical course.

Conclusion

Details of the study will be presented in the poster, together with reflection on the advantages and drawbacks of such a teaching and learning strategy. This early positive experience with the medical students provides a good framework for extending such active-learning approaches to other conceptual topics in preclinical teaching.

D1035

TRANSLATING ESME PRINCIPLES INTO ACTION - BRUNEI EXPERIENCE

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Aims

Purpose:

To share my Brunei experiences how ESME course and 12th APMEC principles translated into my daily teaching practice. Proposals to propagate the learned principles to a larger context shall be discussed.

Background:

I work in a teaching hospital affiliated to the University of Brunei Darussalam. I teach ophthalmology to undergraduate, postgraduate doctors and advanced diploma in Ophthalmic Nursing (ADON) students. I had been a didactic lecturer in the past. The ESME course and interaction with international and local faculty at the 12th APMEC gave me an insight and understanding of a definite science and methodology involved in systematic medical education teaching. I decided to evaluate the efficacy and practicability of some principles and techniques that I had picked up at the conference into my Brunei scenario.

Methods

I performed an individual action-research study on my ADON students. My focus was to assess how FAIR principles had an impact and changed nurses' perception of learning. The course topic was 'Lid injuries and their management'.

Results

The learning objectives were identified. FAIR principle was adopted. Few days before the course, nurses were given the knowledge resources towards self-directed learning. Observation methodology was used to get a quick cross sectional assessment of good and weak students during group discussion. They were appropriately guided to ensure all participated. Timely, specific, frequent non evaluative feedback was given. Activity involved handling models and identifying parts of eye adnexia, sketching and annotating in white board, handling microsurgical instruments and relating them to the topic discussion. By observation methodology, the weak students were individualized and appropriate guidance, attention, and peer based learning exercises were given. The relevance of the topic was explained. They understood that they shall actively contribute in appropriate triaging of lid injuries, proper documentation, basic counseling, and setting up the surgical trays. I conducted semi-structured interview feedbacks, directly observed, and took some field notes. The students gave positive feedbacks that they enjoyed the session. They preferred active participation and felt responsibility towards their learning. They were willing to cooperate for future sessions and activities too.

Conclusion

This action review provided me with an opportunity for continued reflection. I observed that the group participated in active proactive learning starting from the pre course self-directed learning. Weak students were quickly identified by cross sectional random sampling questions, and were individualized and appropriately guided during the peer based learning exercises. By giving appropriate and timely feedbacks, a healthy competitive atmosphere was created. Activity ensured that the students were not passive learners and kept attentive during the session. Individualized small group discussions were arranged for weak students. Relevance of the topic ensured that they gave their utmost concentration during the session.

D1036

CONFIDENT ABOUT CONFIDENTIALITY

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Aims

Confidential information management in healthcare is a key medico-legal issue with potentially significant consequences. From discussing patients in lifts, to leaving patient lists in cafeterias, all levels of health professionals, including students, could be subject to disciplinary proceedings if they are involved in such incidents or errors. Therefore, we decided to analyse medical student behaviour, hoping to gain a deeper understanding of whether students are adequately trained to avoid such incidents and understand their importance.

Methods

From a short questionnaire about confidential waste behaviour to medical students (at St Mary's Hospital in London), it was clear that the students from all years of undergraduate clinical training were engaging in potentially disciplinary behaviour. Students reported taking theatre lists, identifiable patient clerkings and ward round information outside of the hospital. We found that a high number of respondents admitted (in confidence) that they had partaken in confidentiality breeches, and that this was more pronounced in the first clinical year. Finally, across all years, students agreed that there was room for improvement and training with regards to Caldicott principles.

Results

Across all clinical years, 79% of students admitted to taking confidential information home. Third years were significantly more likely to have taken confidential waste home, a reflection of ongoing behaviour, knowledge and attitude. Additionally, 16% of students admitted to having confidential information on them when questioned.

Conclusion

We concluded that Caldicott training would be valuable at every new attachment. Furthermore, 95% of students agreed that installing a confidential waste bin next to student lockers would reduce the number of breeches.

Maintaining confidentiality is outlined as a key element of patient safety in GMC guidelines. Incidents and errors where confidential information leaves the hospital environment can have serious consequences. Outside of a trust's sphere of confidentiality, vulnerable patient information has potential for abuse. Furthermore, confidentiality breeches universally reduce the public's trust in the healthcare system. This results in the devastating consequence of patients sharing less of their personal information with healthcare providers, leading to underdiagnosis, poorer management and worse patient outcomes.

D1037

THE DEVELOPMENT OF LEARNING AND EVALUATION TOOLS FOR EXAMINATION OF SODOMY VICTIM

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Aims

Indonesian regulation stated that if there is no forensic specialist available than the police can asked a medical doctor to perform examination in the interest of justice. As a consequences Faculty of Medicine should provide education for that matter. Indonesian Medical Doctor Standard of Competence stated that for "rape" the level of competence is 3 (shows) and for "sodomy" the level of competence is 4 (does). Level 3 & 4 requires OSCE and work based assessment for evaluation. This has become a challenge because not only the cases were rare they also sensitive cases that sometimes refused to be examined by medical students. The mannequin available was for digital rectal examination which was not suitable for learning and evaluating this kind of examination.

Methods

We developed the tools using available materials that resemble the visual and consistency of the anus so the student will be able to perform inspection and palpation of the organ, know the depiction of suspected of sexual abuse victim look like.

Results

We performed try out of the tools to the students both for learning and evaluation and after that seek for feedback for improvements. The tools now had been used for learning and evaluation for a year.

Conclusion

In order to achieve the competencies required for the students, as a faculty member we should expand our effort to provide the best learning process and tools.

D1038

A NATIONAL SURVEY FOR DENTAL POST-GRADUATE YEAR PHYSICIANS (DPGY) PROGRAM SATISFACTION IN TAIWAN, FROM 2013-2014

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Aims

In order to extend medical school education to clinical service and improve healthcare quality , the Ministry of Health and Welfare (MOHW) implemented the Dental Post-Graduate Year Physicians (DPGY) Program since 2010 and held national survey yearly .In order to understand the satisfaction of students and explore the barrier of DPGY program.

Methods

We administered an anonymous structured satisfactory questionnaire and five-point Liker scales. To enhance the response rate, we combine online questionnaire with QR-code. The questionnaire including five parts as following (1) job satisfaction (2) teaching resources (3) Teachers Skills (4) self-evaluation and Career Plan (5) suggestion of training modifications. Participants in DPGY Training including hospitals and clinics complete survey.

Results

Total respondents including 238 students from 240 different hospitals and clinics, (response rate 32.5%).In 2014, the satisfaction of students on "self-evaluation and Career Plan" scores were better than 2013(response rate is 45.4%, 304 students).

(1) 82.4 % of students agreed that "to accept after first year of DPGY program in total patient care skills better than intern". (2013, 74.7%)

(2) 83.6% of the students agreed after the completion of the DPGY program could have the independently ability of total patient care. (2013, 72%)

(3) 69.7% of the students agreed to complete the DPGY program were useful for private practitioners (2013, 66.8%)

(4) 71.4% of the students agreed that if they have opportunities to be teachers, they would teach knowledge and skills happily. (2013, 69.1%)

Conclusion

Most of the students agreed that DPGY program can improve the total patient care skills and career plan, The recognition rate of DPGY program increased yearly. In the beginning of DPGY program, although we have positive feedback from pilot studies, we still need to make effort on adjust the program in the future. To improve overall dental education quality, the goal of next stage is to combine dental specialist training.

MOVING FORWARD WITH PATIENT RECRUITMENT AND RETENTION

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Aims

Background:

The NUMed MBBS curriculum comprises a patient study project to be carried out by all students in Year 2. The study is carried out with volunteer patients and focuses on chronic illnesses and its impact on daily lives. The duration of study is 5 months in a year and requires sequential participation of the volunteer patients.

Introduction:

Volunteer patients are the key sources of information for the study of chronic illnesses. Much has been documented and reported on the reasons for sustainability of recruitment as well as ways to ensure future participation of volunteer patients.

Aim:

The study aims to identify more clearly the reasons behind sustainability of recruitment of volunteer patients.

It also aims to identify students' recommendation of volunteer patients as well as the demographic pattern of the volunteer patients.

Methods

This is a retrospective study using a learners' feedback form given to the Year 2 students (n=122). The data collected included the patients' details and the students' recommendation for the volunteers' future participation. All volunteer patients for the research study in 2014/2015 were invited for future participation in 2015/2016 (n=61).

In addition, a pilot study questionnaire was constructed using monkey survey. The students were emailed with an electronic invitation describing the aims and objectives of the pilot study which contained a link to the pilot study questionnaire. All students in Year 2 (n=122) of the Year 2 MBBS Course at NUMed were invited to participate in the pilot study in July 2015. The entire pilot study questionnaire responses were anonymised before analysis of the data was undertaken using SPSS (IBM) Software.

Results

Based on the learners' feedback form, from the total number of 61 volunteers, 10 were not recommended by the students for future participation. Volunteer patients who were not recommended by students are excluded from this study.

Of the remaining 51, 33 agreed to future participation (65%). The data collected was measured against gender, race, age and type of chronic illness. Reasons for future participation included stability of illnesses and the provision of time while reasons against future participation include lack of interest and lack of time. Results from the pilot questionnaire are still pending.

Conclusion

Data and literature have emphasized the challenges in patient recruitment and retention. Studies have shown that there exists a high drop-out rate of volunteer patients. Based on this audit, it has been found that there are a significant number of volunteer patients who agree to future participation. An understanding of the reasons behind their willingness to cooperate has been identified and this information shall be applied to future volunteer patients' recruitment and retention. Further discussion of the pilot questionnaire will be discussed after data analysis. Based on the outcome of this audit, future patient recruitment and retention shall take into consideration patient factors such as stability of the medical conditions and students' recommendation.

SUMMATIVE ASSESSMENT USING COMPETENCY BASED TESTING (CBT) TO ASSESS IMPROVEMENT BEFORE AND AFTER E-LEARNING IMPLEMENTATION FOR THE SINGAPORE NEONATAL RESUSCITATION COURSE

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Aims

To assess the impact of the introduction of E learning on cognitive knowledge of neonatal resuscitation in a provider teaching course compared to lecture teaching and self reading.

Methods

Prospective cohort study to assess the impact of E learning on cognitive knowledge of neonatal resuscitation, by conducting summative assessment using a set of 60 scrambled multiple choice questions constructed using competency based testing percepts.

All participants for Singapore Neonatal Resuscitation Course (SNRC) Provider Courses, which covered all SingHealth neonatal centres (both KKH and SGH) as well as external particpants, between Jan 2013 till Jul 2014 were included, comparing controls in 3 pre-E learning courses with those in 5 post-E learning courses. Primary outcomes were test scores and 80% passing rates, before and after E learning. Secondary outcomes included identification of subgroups most likely to benefit, and to identify strengths and weaknesses using core competencies.

Results

A total of 157 participants were included, with 67 controls compared to 90 E-learning. Test scores improved from median of 83% to 87% (p=0.09). Among doctors, passing rate improved from 88.1% to 98.2% at first attempt (p=0.04). Improvement was particularly marked if the doctor is not practicing in a private centre or in an obstetric/non-neonatal unit, with passing rates increasing from 58.3% to 100.0% (p=0.04). The competencies showing significant improvement after E learning were principles of resuscitation and special conditions incorporating prematurity, post resuscitation care and ethics. There was a trend towards significance in the intubation/airway competency (p=0.06).

Conclusion

Doctors benefited significantly from E learning, particularly doctors who were not in public tertiary or neonatal units.

EFFECTIVENESS OF MOBILE TECHNOLOGY FOR FACULTY DEVELOPMENT OF HEALTHCARE PROFESSIONALS

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Aims

Background

Mobile technology has revolutionized teaching and learning, with the trend of being increasingly learner-centered, self-directed and interactive. The ubiquitousness and limitless potentials of mobile technology makes it an invaluable tool for faculty development. The use of mobile technology in continuing professional education among healthcare providers not only promotes creativity, innovation and higher-order thinking but also facilitates distance-learning. Resources can now be easily designed, shared, accessed and used to educate healthcare professionals from all over the world.

Aim

The aim of this study was to evaluate the effectiveness of incorporating mobile technology into faculty development in the healthcare profession.

Methods

Our team conducted full-day mobile learning workshops among healthcare professionals in Cambodia, UK and Singapore. These workshops aimed to educate and equip participants with the knowledge of mobile technology and the skills of designing, developing and deploying learning programmes using mobile technology in a cost-effective manner. The workshop covered the following topics: affordance of mobile technology in workplace, instructional design model to guide mobile learning course design, and deployment of course in online learning management system.

Surveys on participants' knowledge and experience in using mobile technology in teaching were conducted through Socrative by the end of the workshop. The survey focused on participants' current role in health profession education, their understanding of digital learning, perceived benefits of mobile learning and their current competency in digital assets production. The same survey will be administered 6 months later among participants from Singapore, Cambodia and UK. Descriptive data analysis will be done in SPSS to gain an understanding of participants' knowledge change as well as their application of mobile technology 6 months later. The one-way ANOVA and t-test will be conducted to explore whether there are differences among participants from the three countries.

Results

We expect the survey results to validate the effectiveness of the workshop, as well as of participants applying mobile technology in their teaching. For example, participants will recognize the benefits of mobile learning, gain a deeper understanding and competency in mobile learning via our workshop and will, at the end of it, be competent in digital assets production for further education use.

Conclusion

We believe that mobile technology is an integral component for the success of faculty development among healthcare professionals. Mobile technology will complement the traditional methods of teaching and learning, which will improve immediate and long-term learning outcomes.

D1042

DEVELOPING AND EVALUATING AN INTERACTIVE ONLINE CONCEPT MAP FOR EVIDENCE BASED PRACTICE TEACHING IN UNDERGRADUATE MEDICAL EDUCATION

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Aims

Background:

The purpose of teaching medical students Evidence Based Practice (EBP) is to enable the development of proficient skills for life-long learning. Students' mastery of basic concepts of epidemiology and medical statistics are essential for the efficient execution of critical appraisal and hence EBP. Empirically, students in the early years of their medical education struggle with these difficult concepts. In addition locally, the complex structure of an integrated curriculum and the way in which EBP is embedded within further challenges the acquisition and retention of basic knowledge. Expanding learning opportunities beyond the classroom with an online interactive concept map as scaffolding can enable the acquisition and integration of new knowledge and support revision.

The concept map is based on Ausubel's theory of meaningful learning (1). It is a graphical tool for organizing and representing knowledge in a concise manner making information more coherent and transparent to students (2). A few small studies using pre-prepared concept maps in medical education found significantly better performance among students receiving concept map teaching when compared to standard lectures (3,4). However, a review on the use of concept maps in medical education calls for studies using more rigorous methods for evaluation, as the majority of previous studies were descriptive in nature (5).

Objectives:

1) To develop an online interactive concept map to use as a knowledge resource and learning tool.
2) To conduct a rigorous evaluation measuring both cognitive and motivational effects of the intervention.

Methods

Setting: In a 2-year programme, over eight system blocks with one 2 hours whole class session and one 2 hours tutorial in each system block, the 'Evidence Based Practice' course introduces core statistical and epidemiological concepts.

Design: A randomised intervention study using a cross over design will test the effectiveness, utility and acceptability of access to an online interactive concept map via the learning management system Moodle.

Intervention: The concept map to be developed will be interactive with learning and assessment features to help reinforce student learning. For example, the concept map will include1) quick reference definitions for key terms; 2) embedded multimedia materials; 3) check-your-understanding questions. The learning management system (Moodle) will be used as platform.

Outcomes: The primary outcome will be students' scores on assessments each consisting of ten multiple-choice questions (MCQs) and measured before (testing prior knowledge), during, and after the intervention.

Secondary outcomes and/or relevant covariates to be measured through standardized self-administered questionnaires and focus groups interviews include intrinsic motivation measures, computer self-efficacy, demographics (age and sex), time used studying with the concept map, and tutor.

Results

Implications:

This project represents a pedagogical improvement that can enhance the processes of both curriculum design, planning of teaching activities, and student learning outcomes. The randomized intervention study will provide high-level evidence to inform the utility of concept maps for EBP in undergraduate medical education.

Conclusion

Perspectives:

If the concept map proves effective it can further provide a platform for adapting a flipped classroom approach, which in turn can facilitate progression into more practical application of critical appraisal skills in class.

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D1043

DEVELOPMENT AND ASSESSMENT OF MULTIMEDIA TRAINING IN RESOURCE POOR COUNTRIES

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Aims

Aims: to use quality improvement methods to produce video intense multimedia programs for healthcare workers in resource poor countries.

Methods

Overview of process: A quality improvement process was taken to develop a video intense multimedia resource tailored to the needs of sub-Saharan Africa. After initial qualitative and quantitative research with user groups in Uganda and Tanzania, a quality improvement approach was used to developing the materials based on a PDSA (Plan - Do - Study - Act) cycle.

*   Plan - developing specifications and then detailed plans
*   Do - gathering assets, production, internal review
*   Study - external review and piloting, evaluation
*   Act - publicity, distribution and dissemination.

Methods: Initial qualitative and quantitative research was conducted with the target audience in Uganda and Tanzania to determine their needs and preferences, including the demonstration of two existing multimedia resources: Minor Injuries in Accident and Emergency and Paediatric Respiratory Examination. Qualitative research findings were triangulated with a review of the academic literature and relevant training curricula. A prototype resource in eye health was developed as a DVD and website with seven video modules covering clinical examination skills, practical procedures and common presenting problems, supported by additional reference material. Clinical videos were obtained primarily in Uganda and Tanzania with informed consent from patients, parents and caregivers. The materials were reviewed by two independent pharmacists (for drug accuracy) and an informal group of mid-level eye health workers; then by an external expert and in a detailed pilot study. After modification, the materials were tested in a randomised trial to test the impact on medical students' clinical skills in Uganda. Finally, practical issues related to distribution, publicity and dissemination of the materials were addressed.

Results

Results and outputs: Qualitative and quantitative research confirmed that DVD for television was the most accessible platform, followed by internet (although video capability was limited). Wide ranging insights were gained from qualitative research which shaped the development of the resource. The use of a quality improvement approach brought structure to the development process. It was highly productive to combine 'subject specific' and broader 'multimedia' expertise within the author team. The resulting educational materials were well-accepted by students and educators; and improved the clinical skills of students when measured using an Objective Structured Clinical Examination (OSCE) in Uganda.

Conclusion

Conclusions: Technology, including internet access, is developing rapidly worldwide although is still beyond the reach of many health workers in sub-Saharan Africa. Context-specific video intense multimedia materials, delivered using appropriate technology, can improve clinical skills. With appropriate modifications, our methods can bring a 'quality improvement' approach to educational resource development, and is applicable to projects for other learner groups, topics and geographical regions. The specimen resource is available at www.worldmedicaleducation.org. Our group is currently developing further materials in Malawi in partnership with World Health Organisation, UNICEF and Save the Children.

WWW.WORLDMEDICALEDUCATION.ORG

D1044

EFFECT OF USING THE DA VINCI SKILLS SIMULATOR ON ROBOTIC SKILLS ACQUISITION IN RESIDENTS

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Aims

Robotic-assisted surgery is increasingly used as a minimally invasive approach to surgery. We aim to assess the impact of using the da Vinci Skills Simulator on robotic skills acquisition for residents with no prior exposure to the robotic console.

Methods

The da Vinci Skills Simulator™ (Intuitive Surgical) is a compendium of simulation exercises designed for use with the da Vinci® surgical system. It allows for surgeons to practice their robotic skills in a non-clinical environment. 9 urology residents (mean age 27.1) with no prior experience in robotic surgery completed 4 different exercises (camera targeting, ring walk, peg board and energy switching) on the simulator. Each resident was given a standard brief on the console controls prior to the exercises. The exercises varied in complexity and involved different skill sets. The set of 4 consecutive exercises were repeated immediately and scores were given in each of the exercises in various domains with an overall score. Paired T tests were used to compare the differences in overall scores and times between the two attempts.

Results

Each resident took a mean time of 729.8 (501-908)s to complete the first set of 4 exercises. The second set of 4 took a mean time of 522.9 (378-645)s. All the scores improved significantly. The greatest improvement was seen in camera targeting (44.4%) while the least improvement was seen in energy switching (8.1%).

Conclusion

A simple brief and single repeat set of exercises on the da Vinci Skills simulator enabled novice residents to achieve basic control of the robot and improve on their robotic skills set. Despite the high cost, it may be a useful tool to invest in, much like a flight simulator.

D1045

FOURTH YEAR MEDICAL STUDENT PERCEPTION ON PROBLEM BASED LEARNING CURRICULUM IN FACULTY OF MEDICINE BANDUNG ISLAMIC UNIVERSITY

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Aims

Problem based learning is a very innovative way of teaching especially in medical education. Over the last decade, many faculty of medicine in Indonesia have been adopting problem based learning as the preferred curriculum. Faculty of Medicine, Bandung Islamic University is one of them which has been adopting problem based learning since it was established in 2004. Since then, there never been any evaluation to understandthe perception among students regarding the academic activity. This research was conducted to evaluate the perception among the fourth year medical student regarding all academic activity using problem based learning curriculum before they run for clerkship curriculum.

Methods

This was a descriptive study using cross sectional approach. 134 fourth year students of Faculty of Medicine, Bandung Islamic University were asked to fill in a self-administered questionnaire adopted from L.C. Saalu et al research, measured their perception on problem based learning on a 5 point Likert type rating scale of 1 (strongly agree) to 5 (strongly disagree). Research was done in April 2015.

Results

The research showed that most of them, which is 46% agreed that problem based learning is more effective in fulfilling learning objectives. 41% agreed that problem based learning gives better factual knowledge. 61% agreed that problem based learning promotes student participation in the learning process. 64% agreed that problem based learning promotes student critical thinking and reasoning. 41% were neutral about problem based learning is more interesting and fun. 52% were agreed that problem based learning promotes team work and interpersonal skill acquisition. Overall, most of them had a good perception about problem based learning curriculum. Only 8% of them answered disagree on every question.

Conclusion

The finding of this research showed that most of the fourth year student had good perception on problem based learning curriculum, but still need extra attention into some areas so all the students can be pleased.

DO NOVEL COMPUTER-BASED PRACTICAL SPOT TEST WELL RECEIVED BY MEDICAL UNDERGRADUATES?

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Aims

The purpose of this study is to evaluate the students' perception on computer based practical spot test (CBPST) which was incorporated to assess certain subjects in the third and fourth year medical undergraduate curriculum.

Methods

Third year medical undergraduates were evaluated with CBPST during their general pathology module. Just after completion of CBPST, we assessed their attitude towards the test method using a self-administered questionnaire. The questionnaire included both close and open ended questions. Answers to the open ended question were coded and inductive thematic analysis was done.

Results

One hundred and eighty one students responded to the questionnaire. Of them, 157 (87.2%) student agreed the fact that it is a good method of practical spot test, 17 (9.4%) students did not agree or disagree while 6 (3.3%) disagreed. Students that agreed it as a good method described many advantages of the test method including saving and managing time, less stressful, providing clear pictures and provision of equality for all students etc. However, among student who disagreed or provided a balanced view stated live specimen were better than images.

Conclusion

It is clear that CBPST is well received by students. However, the long term impact on this method as an assessment of dealing with live specimens and real life situations in their medical practice need to be investigated properly.

THE PREDOMINANT LEARNING APPROACHES OF MEDICAL STUDENTS

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Aims

Medical students often have to memorize and assimilate vast amounts of information in a limited amount of time. In order to optimize their learning experience by understanding the patterns of learning approaches of the students, we undertook this study to examine factors that may affect a student's learning approach.

Methods

The Approaches and Study Skills Inventory for Students (ASSIST) questionnaire was applied to 250 medical students on obstetrics and gynaecology clinical attachment at KK Women's and Children's Hospital. It comprises 52 questions, each scored on a Likert scale of 1(low) - 5(high). The scores for sets of 4 were combined into 13 subscales and further grouped to give each respondent a score each for deep, strategic and surface approach. The predominant learning approach is defined as the approach which has the highest score amongst the three approaches.

Deep and strategic approaches are regarded as positive approaches where deep approach connotes an interest in relating to ideas while strategic approach entails good time management and organized studying to achieve good grades. Studies from other journals determined that problem-based learning (PBL) is related to deep learning. The surface apathetic approach is deemed as a negative approach due to routine memorizing and minimal coping with course requirements. Comparisons were made using t test. SPSS v15 was used for analysis.

Results

Of 250 students surveyed, 113 (45%) in local university had A levels; 92 (37%) in local university had degree; 28 (11%) in overseas universities had A levels; and 17 (7%) in overseas universities had degree as the highest attained qualification.

238 (95%) students had one predominant approach, 10 students (4%) had two predominant approaches, and 2 students (1%) had no predominant approaches. 127 (51%) students predominantly utilized the deep approach; 105 (42%) utilized strategic approach and 28 (11%) used surface approach.

Overall, female students had an almost significantly higher strategic approach score (74.9 +9.4 p =0.052) compared to male students.

Conclusion

In general, students scored higher on the deep and strategic learning approach compared to surface approach. Due to the 12.5% incidence of surface learning, some form of learning intervention might be required to reduce this percentage.

D1048

ENABLING TECHNOLOGIES FOR ANATOMY LEARNING: "DREAM, DESIGN AND PRINT IN 3D!"

[1]*Harve Subramhanya K,* [1]*Kanagasuntheram R,* [1]*Bay BH,* [2]*Austin F,* [2]*Yen C,* [1]*Dheen ST*

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Aims

Current learning of human anatomy has capitalized on technological advances leading to new dimensions for inculcating knowledge of the human body, including virtual anatomy using multimedia tools. However, pure textual or virtual anatomy is significantly deficient in explaining the core-critical concepts of human anatomical design, as they are mostly 2-dimensional in nature, and require translational mental 3D visualization efforts from the students to understand the structure-function correlation. Furthermore, physical models of anatomical structures often fail to effectively couple structure and function, since consideration of physiological kinematics is largely non-existent. Using 3D-printing, a cutting edge technology and powerful tool for translating anatomical concepts into 3D models, we aim to develop physical models with functional abilities that capture the relationship of structure to function in organs / systems. We present results of our current work that highlight the immense potential of this approach to enhance the current learning of anatomy.

Methods

In collaboration with our colleagues in the School of Design and Environment, NUS, we designed 3D models of selected synovial joints. The models aim to specifically demonstrate how the shape of the articular surfaces determine movements at a joint, the relationship between muscle attachment and its action about an axis of the joint and the relationship between ligament attachment and its restriction of movement about an axis of the joint.

Results

Initially, the wrist joint prototype was selected and 2D drawings of articular bony contours of the ellipsoid (wrist) joint were created using Rehino (a computer-aided design software). After 3D printing of these drawings, the models obtained were supplemented with the relevant muscular components and, using inflatable materials, a pneumatic system was used to activate the muscles and move the articulated "bones" simulating the physiological scenario.

Conclusion

From our initial models, functional movements at the wrist joint were satisfactorily demonstrable. A few possible avenues to improve the models have been identified and current work to enhance the utility of the model is underway. Furthermore, we intend to expand our efforts to encompass other synovial joints, as well as develop conceptual/functional models of other organ systems.

ACCEPTABILITY AND PERCEIVED VALUE OF SIMULATION BASED MEDICAL EDUCATION IN MALAYSIA

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Aims

At our medical school we have integrated simulation training, using a SimMan 3G patient simulator, into the final three years of the undergraduate curriculum. Simulation is used most extensively during the last semester of the final year during which each student participates in six simulation sessions each involving four cases focused on managing an acutely ill patient. We believe that simulation training provides an educational experience with aspects that students would find difficult or impossible to replace with other learning methods and, as such, it is an important component of the final year teaching programme. However, simulation training is a resource intensive teaching method, both in terms of equipment costs and staff time and, it has recently been suggested that simulation may be overused in undergraduate medical education.

In light of this suggestion and the fact that our increasing student numbers demand increasing investment of resources to maintain the current level of simulation training it seemed appropriate to re-evaluate the benefits of our programme.

Methods

To assess the acceptability of this training to our students and their perception of the quality and value of the training provided we sought formal feedback from our current cohort of final year students. After the final simulation training session of the course all students were asked to complete a paper questionnaire which contained 17 statements about their feelings towards simulation training. Students were asked to rate their agreement with each statement on a five point Likert scale. Free text comments were also requested. Completion of the questionnaire was voluntary and students could omit any questions which they did not wish to answer. No personally identifiable data was collected on the questionnaire.

Results

The questionnaire had a response rate of 100%. All students saw simulation as a valuable activity which helped them achieve course outcomes and prepared them for clinical practice. Most students experienced anxiety during simulation, however, few students feel uncomfortable about being observed during the scenario. The anxiety students feel may be that appropriate to an inexperienced practitioner caring for an acutely ill patient and so indicate student engagement with the simulation scenario. Students overwhelmingly reported enjoying simulation sessions suggesting that the anxiety is not problematic. No relationship between anxiety and perceived learning was evident. Most students did not feel well prepared for simulation training. However, all understood the purpose of simulation training and most were clear about the intended learning outcomes suggesting that they had received adequate briefing. The perceived lack of preparedness may represent a difficulty translating theoretical knowledge into concrete action. Simulation training may be an effective way to bridge this knowledge-practice gap.

Conclusion

Simulation training is acceptable to our students and is perceived by them as valuable. The anxiety they experience during scenarios is probably appropriate and has no apparent ill effects. We believe that our use of simulation training for final year students is appropriate and helps our students meet their learning needs. Allocating resources to provide our growing student body with this learning experience is justified.

D1050

A PAEDIATRIC STUDENT INTERNSHIP PREPARATORY BOOTCAMP FOR MEDICAL STUDENTS IN THEIR PENULTIMATE YEAR

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Aims

The transition from a medical student to a house officer is challenging. In Singapore, final year medical students have the privilege of working as "student interns" in selected specialties. While this provides a wealth of learning opportunities, the learning curve is very steep. Students find the paediatric student internship programme (SIP) especially tough, as the needs of paediatric patients differ greatly from adults. Thus, a full-day student-initiated paediatric SIP bootcamp was designed with the objective of equipping medical students with useful skills to facilitate preparation for the SIP.

Methods

This paediatric SIP bootcamp was organized in March 2015 for medical students from the National University of Singapore who would be paediatric student interns in their upcoming final year. The morning session involved a series of interactive lectures on common paediatric conditions. In the afternoon, students learnt communication skills and explored management of acute and chronic paediatric conditions via five multi-station scenario-base simulations. The sessions were conducted by paediatric residents from the National University Hospital and KK Women's and Children's Hospital, with advice from faculty members.

A set of multiple-choice questions (MCQs) covering 5 common clinical scenarios (neonatal pyrexia, febrile seizure, asthma, gastroenteritis, neutropenic fever), each consisting of 3 questions, were designed and completed pre- and post-lecture, to assess effectiveness of the lectures in helping students apply knowledge in the management of common paediatric conditions.

To evaluate the effectiveness of the afternoon session, pre- and post-workshop questionnaires using a 10-point Likert scale were designed to assess perceived change in participants' confidence levels in managing those conditions.

Results

One hundred and seven students attended the morning lectures, and 40 students participated in the afternoon scenario-based simulation sessions. 100 and 73 students completed the pre and post-lecture MCQs respectively. There was an improvement in the mean scores for questions on neonatal pyrexia, gastroenteritis and neutropenic fever. Overall, the mean (SD) MCQ scores improved from 9.10 (1.27) pre-lecture to 10.72 (1.77) post-lecture (p=0.001).

In the afternoon, 40 and 37 students completed the pre- and post-workshop questionnaires. Following the scenario-based simulations, students reported an increase in perceived confidence for all components evaluated; communication skills, managing angry parents, managing anxious parents, dealing with a child with an acute medical condition (acute asthma) and a chronic medical condition (diabetes mellitus). The overall perceived level of confidence increased from a mean (SD) of 4.5 (1.6) to 7.6 (0.6) following the simulation sessions (p=0.001).

Overall, the workshop was rated 4.58 ± 0.50 out of 5.00 by participants for usefulness.

Conclusion

We found that a one day preparatory workshop with emphasis on soft skills and application of medical knowledge was beneficial. In addition, collaboration between medical student representatives, paediatric residents and faculty staff effectively facilitates the design of a workshop that meets the needs of participants. Similar paediatric SIP bootcamps could be conducted for future batches of medical students, with improvements made based on feedback received, in order to enhance the learning value of these workshops.

POSTGRADUATE RESIDENTS KNOWELEDGE, PERCEPTION AND ATTITUDE TOWARDS EVIDENCE-BASED PRACTICE IN ACGMEI PROGRAM IN QATAR

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Aims

The belief and motivation of postgraduate residents are crucial in implementing evidence-based practice. A better understanding of EBM cultures among them will improve their skills and healthcare quality. The aim of our study is to explore pediatric residents' knowledge, perception and attitudes towards Evidence-Based Practice and to determine their educational needs.

Methods

Cross-sectional Survey was conducted from July till August 2014 at Hamad Medical Corporation main tertiary teaching hospital in Qatar. This included details of demographics, perceptions, knowledge, skills and value of EBM in clinical practice. Questions offered objective answers utilizing the 4-point Likert scale.

Results

Out of 36 responses, 24 (67 %) were juniors, 12 (33 %) senior residents. Overall (90 %) stated that pediatric department supports the use of EBM. Although (60 %) were competent in searching for evidence in databases, only (44 %) received formal training in critical appraisal. Almost (60 %) were confident in understanding EBM terminology. Nearly (80 %) of responders stated that EBP will improve clinical care, decision making and reduced the health care cost. On the other hand, (70 %) still use textbook to answer clinical questions and (35 %) value faculty's view and experience more than evidence from research.

Conclusion

Our findings demonstrate that a majority of postgraduate residents have favorable beliefs and attitudes toward EBP. Despite the enthusiasm, there remains a significant gap between their positive perceptions and implementation in clinical practice. Our study will help to further spread the cultures of EBM and develop new educational programs to facilitate and teach EBM in the department.

DO WE TRULY ASSESS WHAT WE TEACH? TECHNOLOGY POWERED CURRICULUM GAP ANALYSIS

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Aims

How do we ensure whether there is alignment between what we purport is important for students to learn and what we formally assess? We have developed a novel technological approach that identifies the relationship between classroom activities and student learning outcomes with that of the outcomes emphasized on exams (assessments). In so doing, we can perform gap analyses relatively quickly and easily to determine whether there is alignment between what we are teaching and what we are assessing. This can be done from a macro view of the curriculum as a whole, to increasingly granular levels such as by course, professor, and over short or long time periods.

Methods

Built on Microsoft SharePoint technology, we created a real-time curriculum map, granular to the per-learning activity level, which allows us to track learning outcomes we expect to teach. ExamSoft computer-based testing empowers us to assess actual student performance on those learning outcomes. We can then compare the relative mix and absolute amounts of learner outcomes of the curriculum map to the exams, to determine if what is emphasized during the learning activities are appropriately represented on the exams. The results have empowered us with and focused us on opportunities for improving both the curriculum and the assessment of student learning.

Results

Using the above outlined technology and analysis techniques, we have found that some courses have great alignment between what is emphasized in the classroom and what topics show up on the exams, while other courses, unfortunately, appear to have poor alignment between these metrics. In both scenarios, faculty and course directors have easy access to the data and analyses, and have begun to continuously implement change to better address identified gaps in learner outcomes as were previously sub-optimally taught or assessed.

Conclusion

At Western University of Health Sciences, College of Osteopathic Medicine of the Pacific, we are able to perform gap analyses between what we teach our medical students and what we assess, relatively easily and quickly, using a novel technical approach. This technique has allowed us to readily identify and implement curricular change to improve gaps between teaching and assessment. Using these same technologies, in turn, we can quickly and iteratively determine the impact of curricular change on student performance throughout the medical school curriculum continuum, and on national licensing exams.

Function Room 2 & Foyer, Level 2, University Cultural Centre

2.00pm – 3.00pm

E-POSTER PRESENTATION – SESSION 2

STATION 1

D1053   **Contextual Learning of Clinical Pharmacology in the Wards: Effectiveness and Perceptions of a Task Based Educational Intervention**
Chiranthi Kongala Liyanage, Sri Lanka

D1054   **Introduction of the Team STEPPS Patient Safety Module to the Final Year Medicine Undergraduate Curriculum of the Yong Loo Lin School of Medicine (YLLSOM) and a Review of Its Effectiveness in Enhancing Patient Safety Knowledge and Clinical Decision-Making**
Hafizah Ibrahim, Singapore

D1055   **Simulation Based Medical Education: A Comparison Between What Lecturers Taught and What Students Learned**
Antonio Jr. Villarivera, Malaysia

D1056   **Transitioning from Classroom to Workplace: Staff Expectations of Medical Students at Lee Kong Chian School of Medicine**
Lucy Rosby, Singapore

D1057   **Staff Qualification and Educational Exhibition (NUHS University Medicine Cluster)**
Cai Huimei, Singapore

D1058   **The Impact of Undergraduate Medical Education on Students' Choice of Surgery as Future Career**
Seiichi Ishii, Japan

D1059   **The Influence of Placenta Delivery Video Clinical Skills on OSCE Mark and Passing OSCE**
Yenni Limyati, Indonesia

D1060   **Examining Patient Perspectives for the Development of Junior Doctor's Communication Skills: A Qualitative Analysis of Patient Feedback**
Janine Kee, Singapore

STATION 2

D1061   **The Satisfaction from 2-Year Medical Staffs Training Programs Survey**
Chiu Hsin Yi, Taiwan

D1062   **Introduction of the Longitudinal Patient Experience (LPE) Program into the Yong Loo Lin School of Medicine: A 3-Year Study (2012 - 2014) to Evaluate Students' Perceptions and Program's Impact on Increasing Students' Empathy.**
Eve Ng, Singapore

D1063   **Retention of Theoretical Pharmacology Knowledge by Graduates of Three Medical Schools in Saudi Arabi**
Ali Mustafa, Saudi Arabia

D1064   **Assessing Manpower Needs in Implementing a Team-Based Learning (TBL) Curriculum**
Tan Hwee Ming Jestina, Singapore

D1065   **Online Continuing Professional Development for Family Physicians in Eastern Canada**
Michael Allen, Canada

D1066   **Use of Electronic Devices to Prepare for a National License Examination Among Medical Students in Thailand: Use Patterns and Perceived Barriers**
Wittawin Chantapoh, Thailand

D1067   **How to Get Busy Clinicians to Do E-Learning?**
Khoo Kay Leong, Singapore

D1068   **Engaging Passive Learners : A Change in Teaching Approach**
Harlina Halizah Siraj, Malaysia

STATION 3

D1069   **Factors Associated with ACGMEI Duty Hours Violation Among Pediatric Residents in Qatar**
Ahmed Alhammadi, Qatar

D1070   **The Relationship between Feedback of Respiration Module and Oral Test Result in the Level 4 Students at Medical Faculty, Bandung Islamic University**
Mia Kusmiati Koswara, Indonesia

D1071   **Specialty Choice and Perception of Medical Specialties Amongst Medical Students in Malaysia**
Eleanor Hackney, United Kingdom

D1072   **Organising an Inter-Professional Education (IPE) Workshop to Foster Greater Collaborations Amongst Healthcare Educators in National University of Singapore (NUS)**
Sharifah Nur Mohamed Shariff, Singapore

D1073   **Creating Medical Innovators - A Whole-Brain Approach to Healthcare**
Tsuyoshi Yamada, Japan

D1074   **"As Someone Who Practices Psychiatry, I Am…" - An Exploratory Study Using a Modified Twenty Statements Test**
Lim Yong Hao, Singapore

D1075   **Using Human Patient Simulators and Standardized Patients in Interprofessional Education - Four-Year Experience**
Huang Chin-Chou, Taiwan

D1076   **Involving Residents in the Development of an Interactive, Web-Based Learning and Self-Assessment Hub**
Andrew Chin, Singapore

D1077	**Edging Towards Reality - Cadavers Remoulded** *Rajkumar Chandran, Singapore*
D1078	**Clinical Practise of Integrative Case-Based Study on Clinical Pharmacy** *Zhao Rong-Sheng, China*
D1079	**Developing a Physical Examination Teaching Associate (PETA) Program in Medical School** *Wang Yiting Joanne, Singapore*
D1080	**An Appraisal of CAI in Histology Practical Classes of Anatomy in Undergraduate Medical Education of Bangladesh: Students' and Teachers' Perception** *Rukshana Ahmed, Bangladesh*
D1081	**Cultivating Compassion Within the Workforce** *Julia Montgomery, United Kingdom*
D1082	**Physician Burnout Amongst Residents in Singapore** *Tung Yi Min Joshua, Singapore*
D1083	**Learning Styles and Stress Levels: Does it Work for Student's Participation in Tutorial?** *Gita Sekar Prihanti, Indonesia*
D1084	**Nurses Tend to Give Lower Rating for Post-Graduate Year 1 Medical Trainees Based on Multi-Source Feedback** *Chen Yen-Yuan, Taiwan*

CONTEXTUAL LEARNING OF CLINICAL PHARMACOLOGY IN THE WARDS: EFFECTIVENESS AND PERCEPTIONS OF A TASK BASED EDUCATIONAL INTERVENTION

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Aims

Clinical pharmacology is traditionally taught to medical undergraduates in the classroom. This study assessed students' perceptions, and effectiveness of contextual learning of practical aspects of clinical pharmacology during clinical appointments.

Methods

Pharmacology lecturers of Faculty of Medicine, University of Colombo, Sri Lanka conducted two rounds of ward classes(WCs) 6-8 weeks apart to 3rd year medical undergraduates. Objectives and a workbook were given to be completed, based on activities students were requested to carry out in the wards. WCs were used to consolidate and clarify activities and learning expected from students during the clinical appointments pertaining to Pharmacology. Students' perception and practices were assessed with a pretest and a post-test questionnaire. Feedback was obtained from students and the lecturers. Descriptive statistics and chi square test was used to identify associations. Comments were analyzed using qualitative thematic analysis.

Results

Altogether 24 WCs were conducted by 6 lecturers for 215 students in 14 groups. Response rate was 93.2% (n=200) and 96.74% (n=208) for pretest and post-tests respectively. Majority (60.8%) sought additional information on medicines in the wards from British National Formulary (53.5%), online resources (29.5%) and medical staff (19.7%). There was a significant increase in students seeking information after the intervention (41% vs 62.5%, p<0.001). Only 41.5% claimed to have received adequate input on learning pharmacology effectively during the clinical appointments before the WC. Students appreciated the objectives better after the programme (42.2% vs 56.2%,p=0.002) but the perception that pharmacology can be effectively learnt by contextual learning did not change significantly (83.8% vs 83.2%).

Aspects that improved significantly after the intervention included identification of commonly used medicines and drug regimens (50.8% to 80.3%, p<0.001), taking comprehensive medicinal drug histories (28.1% to 43.8%,p<0.00), identification of medicines in the medicinal drug/injection trolley (50% to 80.3%,p<0.001), the emergency treatment trolley (55.3% to 79.4%,p<0.00), identifying side effects of medicines (24.2%, to 34%,p=<0.05) and providing information on medicines to patients (19.1% to 33.1%,p=<0.05). Significant improvement occurred in administration of medicines by oral intravenous, intramuscular, subcutaneous and topical routes by students (p≤0.001) but not by per-rectal/per-vaginal route (p=0.054). Reporting adverse drug reactions by students did not improve (5.6% to 6.9%, p>0.05).

Majority (81.3%) perceived this programme as helpful which demonstrated how to learn pharmacology in the clinical setting (81.7%), covered adequate content (64.9%) and said they had adequate time

for activities (64.6%). Workbook was considered a good guide (73.5%). However only 12.5% said intervention helped develop an interest in clinical pharmacology and only 35.7% suggested to increase the number of WCs and extending the programme.

Lecturers stated that the programme cannot be substituted by lectures(83.3%), was appropriately timed(100%) should be conducted as bedside teaching (66.7%), workbook was a useful guide (100%) which covered the objectives of the programme (100%) and gave self-explanatory instructions (83.4%).

Conclusion

Medical students have positive attitudes towards learning pharmacology, through a task based educational intervention. It improved their practices in using clinical environment for learning and applying their knowledge. Task based contextual learning using WC and workbook is effective for learning in clinical pharmacology during clinical appointments.

D1054

INTRODUCTION OF THE TEAM STEPPS PATIENT SAFETY MODULE TO THE FINAL YEAR MEDICINE UNDERGRADUATE CURRICULUM OF THE YONG LOO LIN SCHOOL OF MEDICINE (YLLSOM) AND A REVIEW OF ITS EFFECTIVENESS IN ENHANCING PATIENT SAFETY KNOWLEDGE AND CLINICAL DECISION-MAKING

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Aims

This module was introduced in AY2012/2013 to address training in patient safety and clinical decision-making amongst medical students. It is part of the Critical Skills and Life Support Posting that imparts practical & clinical skills necessary to function effectively during the SIP (Student Internship Programme) and subsequently as HOs/PGY1s.

Using a hybrid of high fidelity simulators, part-task trainers and Standardised Patients, students undergo various simulation scenarios to better understand the importance of team work, communication and professionalism in acute clinical crisis situations, underscored by the central theme of patient safety. Through simulation, students are exposed to real case scenarios in a safe environment where they learn of the potential pitfalls and concepts in blood transfusions, patient transfer, good handovers, open communication and medication safety.

This study serves to evaluate the effectiveness of the Patient Safety Module in the Final Year Medicine Undergraduate curriculum in YLLSoM.

Methods

Students in AY2014/2015 were surveyed at the beginning and end of the module to get their perceptions on patient safety and clinical decision-making. The feedback form comprises of 5 questions on a 4-point Likert scale: 4 - Very Good, 3 - Good, 2 - Not Good and 1 - Poor. Students were surveyed on their level of understanding of the following concepts, first at the commencment of the module and then at the end of the module:

1. Patient safety issues
2. Leading a clinical team
3. Clinical decision making
4. Working in clinical teams
5. Breaking bad news to a patient/relative 243 out of 255 Phase V students participated in the survey.

Results

Based on the pre-evaluation results, most of the students have a low understanding in the following concepts of patient safety (Rated 2 and below):

1. Patient safety issues - 47% of students
2. Leading a clinical team - 55.2% of students
3. Clinical decision making - 46.6% of students
4. Working in clinical teams - 40.1% of students
5. Breaking bad news to a patient/relative - 53.4% of students

At the end of the module, the post-evaluation results show that most of the students have greatly increased their understanding in the following concepts (Rated 3 and above):

1. Patient safety issues - 99.6% of students
2. Leading a clinical team - 96.1% of students
3. Clinical decision making - 97.4% of students
4. Working in clinical teams - 98.7% of students
5. Breaking of bad news to a patient/relative - 94.6% of students

From the qualitative feedback, the 3 most commonly listed strengths are:-

(1) A fun and interesting way to learn patient safety through simulation
(2) A safe environment to make mistakes
(3) Simulation helps with the practical application of clinical knowledge

The 3 most commonly listed areas for improvement are:-

(1) To reduce time spent on didactics
(2) Have fewer people per group for learning conduciveness
(3) Have even more scenarios to practice on

Conclusion

In summary, after completing this module, the students feel more adequately equipped with both clinical knowledge and skills to better prepare them for real clinical work. They feel more competent and confident in functioning as a HO or PGY1. In addition, they enjoyed this form of experiential learning and prefer it to traditional teaching methods. The module objectives were met and the Centre for Healthcare Simulation (CHS) is looking at incorporating this programme into team-based inter-professional education.

SIMULATION BASED MEDICAL EDUCATION: A COMPARISON BETWEEN WHAT LECTURERS TAUGHT AND WHAT STUDENTS LEARNED

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Aims

To compare the perception of Stage 5 Newcastle Medicine Malaysia (NUMed) students and lecturers in terms of what was learned and what was taught during simulation.

Methods

At the end of the last simulation session, all students (N=29) were instructed to fill up a paper questionnaire that contained thirteen topics. They then rated each topic using a five point Likert scale based on what they perceive they have learned during the entire simulation sessions. The same was done for the lecturers (N=4) except that they were asked about what they think was taught to the students and the process was carried out via online survey. Both activities were completely voluntary and anonymized.

Results

Out of the thirteen topics, two (team working skills and treatment algorithms/ protocols for patient management) received the highest rating (100%) with both students and facilitators agreeing that these were taught and learned during the sessions. Other topics such as cardio-pulmonary resuscitation, approaching an acutely ill patient, clinical reasoning and prioritization also showed similar results in that majority agree (lecturers: 100%; students: 93-96%) that these were both taught and learned. The topics that garnered a considerable amount of variability (responses were either agree, neutral or disagree) were history taking skills, practical/technical skills and physical examination skills.

Conclusion

Although there were topics where both students and lecturers agree were taught and learned, there were still some that showed disagreement. Thus suggesting the idea that what teachers teach might not necessarily be what students learn.

TRANSITIONING FROM CLASSROOM TO WORKPLACE: STAFF EXPECTATIONS OF MEDICAL STUDENTS AT LEE KONG CHIAN SCHOOL OF MEDICINE

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Aims

The transition from predominantly classroom based learning to that of the workplace is one of the most stressful events for students during medical school. As such, it is overseen by a range of healthcare professionals including consultants, junior doctors and nursing staff. This study aims to understand what these healthcare professionals expect of the first cohort of LKCMedicine students during their transition into workplace-based learning.

Methods

This is a qualitative study employing semi-structured interviews to explore the perceptions about student transition into the clinical setting from the perspectives of healthcare professionals who are involved in workplace-based teaching and supervision of medical students at LKCMedicine.

The first cohort of LKCMedicine students transitioned from learning in a predominantly classroom based setting to a workplace environment in August and September 2015. During this period, the third year students were split into groups and spread amongst various medical, surgical and anaesthetic departments at Tan Tock Seng Hospital (TTSH) in Singapore. The clinical block leads were contacted about participating in the study and three departments agreed to take part: General Surgery, Urology and Infectious Diseases.

A range of healthcare professionals who were involved in the training of LKCMedicine students were interviewed prior to the transition week, including a consultant, junior doctor and staff nurse from each department. They were asked about their expected roles in the students' learning and supervision as well as the expectations they had of the students in terms of professional behaviour, day to day tasks and responsibilities, and dealing with problems which may arise. The same staff members were then interviewed again after the transition period, and asked to reflect upon what they experienced with the students, how they felt the students coped and how this compared to their initial expectations.

Results

The results of the study will be presented, as well as the key themes which emerged from the data. These related to the professional behaviours and responsibilities of LKCMedicine students as they entered the clinical environment and the expectations of the healthcare professionals involved in their learning.

Conclusion

By exploring the expectations of healthcare professionals at TTSH who are involved in the learning experiences of LKCMedicine students, this study furthers understanding of different student transition realities. The study also explores what is expected of students at this stage in their training, as they embark on learning predominantly in the clinical setting. It also provides insights into how the students coped with their transition into the clinical environment, and whether staff expectations were fulfilled.

D1057

STAFF QUALIFICATION AND EDUCATIONAL EXHIBITION (NUHS UNIVERSITY MEDICINE CLUSTER)

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Aims

Background: Registered Nurses (RN) and Enrolled Nurses (EN) in National University Hospital (NUH) are required to be assessed on a pre-determined set of annual clinical competencies under Joint Commission International (JCI) Staff Qualification and Education (SQE) Standards. In previous years, Clinical Instructors (CIs) were tasked to assess specific competency skills for their individual ward nurses at patient's bedside. Majority of ward nurses were unable to complete skills competency that were high risk and exceptionally low volume, as large portion of these skills were not available in most wards. One example, non-invasive ventilation administered only at night, is extremely rare in most wards. These raised much concern for nurse leaders. University Medical Cluster (UMC) CIs in collaboration with Nursing Education Unit conducted an experiential exhibition cum competency skills assessment event for nurses from eleven medical wards and three specialized units in April 2015. The main goal was to develop a high degree of proficiency on pre-determined competency skills set.

Aim: The aim of this event was to ensure targeted group of nurses complete the compulsory competency skills assessment at least once over the four days period. It also served to empower nurses to develop confidence for their skills required in their course of work.

Methods

Methodology: The event involved total of eleven elements of assessment skills: four compulsory skills set for RNs; three compulsory skills set for the ENs and additional four skills set for all nurses. Competency skill assessments were performed on manikins in simulated ward environment. An interesting methodology using a mega horror theme was adopted to enhance applied experiential learning. At the mega horror stations, nurses were required to identify several combinations of mistakes from the different competency skills already learnt or assessed. Nurses had to recap and apply necessary knowledge from the skills that have been assessed and to execute with corrective actions within reasonable time.

Results

Results: A total attendance of 364 (80%) nurses completed their skills competency over four day period as compared to previous year 70% spreading over 365 days. Nurses either perform an online post event evaluation or provide written feedback on post-it chart. Nurses rated the overall satisfaction of the event using a Likert scale of 1 to 5, with 1 indicated need for improvement and 5 indicated excellent. Out of 221 online post event evaluations, 84% of the participants were satisfied with the event, and 16% were dissatisfied. The reasons for dissatisfaction were nurses experiencing exhaustion after long working hours, which led to lack of concentration and motivation to complete assessments. Post it responses were more favorable and encouraging.

Conclusion

Evidently, the implementation of this event, had led to an increased number of nurses completing required skill competencies within a shorter time frame, as compared to previous years. UMC Ward CIs would be able to harness more time to concentrate more importantly on clinical supervision of new nurses and nursing students, continuity in ensuring delivery of safe and holistic patient care. Two other clusters, surgical and orthopaedic will follow suit in November 2015.

D1058

THE IMPACT OF UNDERGRADUATE MEDICAL EDUCATION ON STUDENTS' CHOICE OF SURGERY AS FUTURE CAREER

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Aims

The number of medical students who choose a career in surgery has been decreasing since the beginning of the 21st century in Japan. This downward trend is a serious problem in the era of increasing number of patients who require surgery due to the aging society. The purpose of this study was to analyze the reasons behind young surgeons' choice of surgery as their specialty with a particular interest in the influence of undergraduate medical education on their career decision.

Methods

Semi-structured interviews with focus groups were used to collect relevant information from young surgeons. Interviews have been conducted for 13 times during the period from May 2013 through December 2014 with a total of 39 surgical trainees (32 males, 7 females) working in 11 teaching hospitals in Japan. All of the participants were registered members of the Japan Surgical Society (JSS), and most of them were still in the course of the certification program of the JSS. The interview took a mean of 41 minutes for each time, and all sessions were audio-recorded. The recorded data were transcribed verbatim in an anonymous way, and the documents were closely read and coded by three researchers of this study. Then the themes that related positively and negatively to become a surgeon were decided.

Results

The themes relating positively to the choice of surgical career were: #1 personal growth by acquiring higher skills, #2 direct contribution to patient's recovery and #3 preference for the mind and methodologies of surgery. The experience of working in a surgical team in clinical attachments during undergraduate education strongly affected the participants to become a surgeon. In contrast, training of basic surgical skills in the mandatory course before entering clinical attachments did not seem to stimulate their taste for surgery. Though previous studies showed that existence of an enthusiastic surgeon as a role model was one of the factors that attracted medical students to surgery, participants of this study answered that they were more influenced by the work of surgical teams than the performance of a single big surgeon. The themes relating negatively to the choice of surgical career were: #1 difficulties keeping good work-life balance and #2 few rewards for hard work. Despite young surgeons complaints that they were paid less than what it should have been, most of them answered that salary raise would not lead to recruiting more medical students to choose surgery as their career.

Conclusion

Young surgeons in Japan gained inspiration from their work in a surgical team during clinical attachments, which made them chose surgery as their career. Providing more chance for medical students to be engaged in a surgical team and to experience direct contribution to patients may be effective to increase the number of students who will pursue the career in surgery.

THE INFLUENCE OF PLACENTA DELIVERY VIDEO CLINICAL SKILLS ON OSCE MARK AND PASSING OSCE

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Aims

Clinical skills training is a place where students learn new clinical skills. OSCE (Objective Structured Clinical Examination) is designed to test clinical skills performance and competence in skill. We try to find new approach to help students in clinical skills training. We use placenta delivery video to show steps on how to deliver placenta in delivering baby skills. The study aims to determine the influence of placenta delivery video clinical skill on OSCE mark and passing OSCE.

Methods

Participants were 408 medical students of Maranatha Christian University, which divided into 2 groups (video and non-video groups). Video group watched the placenta delivery video during their clinical skills training (n=204). The non-video group practiced their skills without watching the video during their clinical skills training (n=204). All of them took OSCE, then we collected data from their marks and passing OSCE. Data were analysed using independent t-test and logistic regression.

Results

The mean of OSCE marks were statistically significant difference between two groups (p value < 0.05). The mean of OSCE marks in video group were higher than the non video group. The chance of the video group to pass the exam were 1.53 times more than the non video group (p value < 0.05).

Conclusion

Video helped students to get better marks and passing OSCE. Further study is required to analyse other factors relevant to students' achievement in OSCE.

D1060

EXAMINING PATIENT PERSPECTIVES FOR THE DEVELOPMENT OF JUNIOR DOCTOR'S COMMUNICATION SKILLS: A QUALITATIVE ANALYSIS OF PATIENT FEEDBACK

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Aims

We aim to identify the communication lapses made by junior doctors improve the communications skills curriculum for junior doctors. Patients and doctors have different views on what constitutes effective communication. The patient-doctor interaction is considered most reliable for patient-reported measures, especially when based on a specific visit and recorded in a timely manner. Patient feedback hence serve as a crucial and suitable source of information in understanding doctor communication skill lapses and the changing demands doctors face from patients.

Methods

We studied the communication skill lapses made by junior doctors during doctor-patient encounters by conducting a qualitative content analysis on 38 anonymized patient feedback provided about junior doctors between March 2013 and February 2014 at Singapore's second largest acute care general hospital.

Results

Communication lapses included verbal (e.g. para-linguistics, lack of tact), non-verbal (e.g. eye contact, body language, failure to contain personal negative emotions), and content errors (e.g. lacking a detailed explanation, failing to share decision making process). Patients also perceived a lack of empathy, attentiveness, and respect from junior doctors.

Conclusion

We found that systemic lapses and poor inter-professional communication affected patient healthcare experience and influenced patient perception of junior doctor's communication skills. These important factors require deeper research.

Our findings identified the communication gaps by junior doctors, and can be integrated into communication skills curriculum to improve communication skills. Patient perspectives are a valuable source of information and should be integrated effectively in communications course curriculum to develop healthcare professionals.

THE SATISFACTION FROM 2-YEAR MEDICAL STAFFS TRAINING PROGRAMS SURVEY

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Aims

To assess the effectiveness of "post-graduate 2-year medical staff training programs" which implement by Ministry of Health and Welfare, Taiwan (MOHW) since 2007. The coverage rate (the rate of the training hospital after graduated and the accepted training) is approximately 76.5 %, which including nursing, pharmacy, medical radiation technology, clinical laboratory technology, occupational therapy, physical therapy, clinical psychology, counselling psychology, respiratory therapy, midwifery, nutrition, speech-language pathology, audiology and dental technology. Through a trainee's satisfaction survey, the trainees who have accepted the programs can be assessed the effectiveness of the project.

Methods

The survey subjects include 16,638 trainees (including nursing, pharmacy, medical radiation, medical technologists, occupational therapy, physical therapy, clinical psychology, counselling psychology, respiratory therapy, midwifery, nutrition, speech-language pathology, audiology and dental technology) who registered with the program from January to August 2013. The questionnaire survey contents include five perspectives: Work satisfaction, hospital resources, tutor assistance, self-growth, and program support. The 5-point Likert scale was adopted for online survey conducted from 1st October 2013 to 31st October 2013. Regarding the degree of satisfaction analysis in this research, the sums of "strongly agree" and "agree" were adopted to calculate the frequencies of the assessed data. To analyse the program execution satisfaction from trainees.

Results

A total of 10838 trainees responded to the survey questionnaires, with a recovery rate of 65.14%, including 80.9% of nursing, 7.9% of pharmacy and 2.5% of medical radiation technology. In terms of hospital level, 5268 trainees (48.6%) served at medical centres, 5055 trainees (46.6%) served at regional hospitals, and 515(4.8%) served at district regional hospitals. The trainees deemed that after undergoing the post-graduation 2-year Medical Staffs Training Programs, the clinical practice was effectively improved (9253; 85.4%), interactive communication with the group members, patients, or patients' families were facilitated, (9164; 84.6%), and the school education was applied in clinical work (8967; 82.6%). The majority of the trainees (8513; 78.6%) reflect that given the chance they would be willing to act as a tutor. Most of them agreed with the sustained promotion and implementation of this training program undertaken by the Ministry of Health and Welfare (58378; 77.3%). Additionally, the analysis of the correlation between program execution satisfaction and work satisfaction shows a significant correlation (P<0.001). The correlation between program execution satisfaction by hospitals and work satisfaction has been 0.807 in hospital resources, 0.745 in tutor guidance during training, 0.798 in self-growth, and 0.700 in program support.

Conclusion

The trainees generally gave positive recognition for the program implementation. (Respectively 68.8% in 2012, 74.56% 2013 and 77.3% in 2014) The higher degree of satisfaction from the trainees has engaged in the 2-year Post-graduation Medical Staffs Training Programs, the higher the work satisfaction will be. It can be indicted that once the hospital would implement the training programs, the overall work satisfaction will be higher.

INTRODUCTION OF THE LONGITUDINAL PATIENT EXPERIENCE (LPE) PROGRAM INTO THE YONG LOO LIN SCHOOL OF MEDICINE: A 3-YEAR STUDY (2012 - 2014) TO EVALUATE STUDENTS' PERCEPTIONS AND PROGRAM'S IMPACT ON INCREASING STUDENTS' EMPATHY.

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Aims

Empathy levels decrease in many students as they progress through medical schools. Many do not appreciate how chronic diseases evolve, the impact of the patients' social environment nor feel empowered to make a difference in their patient's lives. In 2012, the Yong Loo Lin School of Medicine introduced the LPE program to its first year medical students with the aim of humanising the practice of medicine. This programme provided students with opportunities to explore healthcare and social systems affecting people living with chronic illnesses. It also aim to empower students with the knowledge that they can make a difference in people's lives even while in school.

Methods

From 2012-2014, a total of 344 first year medical students participated in this voluntary programme. The students are paired with a clinical mentor who has identified a patient living in the community with a chronic illness. The students will make 4 home visits, spanning one year from the 2nd half of Phase I to 1st half of Phase II, to their patient. The mentor will accompany the students on the first and last visits. There are sharing sessions facilitated by faculty members held twice a year for students to share their experiences with their peers.

An 18 item questionnaire was developed and administered at the end of the program to solicit students' perceptions. It consists of 5 questions with a 5-point Likert scale (from strongly agree to strongly disagree) and 13 questions for qualitative comments. The survey included questions on whether students felt that they have learnt to better empathise with their patient, program's duration and if they have a better understanding of the healthcare environment that a patient has to navigate through. 244 out of 344 students (response rate: 71%) participated in the survey.

Results

Data collected over the 3 years show that 82% enjoyed the program; 90% agreed that it helped them empathize with patients; 86% felt they better understood the impact of social and healthcare environments; 63% opined the program has empowered them to make a difference to their patient's lives and 58% indicated interest to continue the program beyond a year.

The 3 most commonly received qualitative feedbacks were:

1. A more structured program with goals and reflection questions in a handbook
2. Involve other health-professional students
3. More guidance for home visits

Conclusion

The LPE program has helped students to be significantly more empathic and gave them a better understanding on how patients' cope with their illness and the impact on their lifestyle. With the steady increase in signup rate for the program in its 3 years, it is an indication that the program is gaining in popularity and impact. The school will look into involving other health-professional students to make the learning experience even richer.

D1063

RETENTION OF THEORETICAL PHARMACOLOGY KNOWLEDGE BY GRADUATES OF THREE MEDICAL SCHOOLS IN SAUDI ARABIA

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Aims

The aim this study is to evaluate the ability of the graduate medical students and interns to recall knowledge of pharmacology.

Methods

A cross sectional study was performed for students who graduated from 3 Medical Colleges in Riyadh, Saudi Arabia. A total of 161 students were recruited after they singed an informed consent. Students filled in the forms of the study questionnaire. The questionnaire consisted of 10 multiple-choice questions (MCQs) on basic knowledge of pharmacology.

Results

Out of 161 participants recruited for this study 122 representing (75.8%) were males and 39 (24.2%) were females. One hundred and twenty five graduated from medical schools adopting the PBL system, whereas 36 were from schools adopting the traditional system. At the timing of participation in this study, 82 of the participants were enrolled in clinical rotations. Thirty Eight of participants were preparing for SLE, USMLE, or MCCEE examinations. The MCQs in the study questionnaire were marked out of ten. Only 31 participants scored ≥ 7, 77 scored between 4-6 and 53 scored ≥ 4 .The mean for all the participants was 4.51 ± 1.97; those who graduated from a traditional system sored 4.44 ± 1.99, whereas graduates of PBL system was 4.75 ± 1.91. This reveals that there is no significant difference between the two types of study systems and score (P-value of ≥ 0.49). Correlations of scores for other parameters in the questionnaire were elucidated. The time of graduation, type of medical school, and current rotation when participating in the study, showed no significant correlation with score of the participants (P-value ≤ 0.64). However, the mean score for female gender was 5.38, whereas that of the male gender was 4.23 indicating a significant correlation between the gender and scores (P-value of ≤ 0.001). The mean score for participants who preparing for examinations was 5.16 whereas that of those not preparing was 4.32 revealing significant correlation between preparing for examinations or not and scores attained (P-value of ≤ 0.02)

Conclusion

The findings of the present study suggest that pharmacology knowledge is perceived as difficult and reforms are needed in the way basic pharmacology is taught to medical students. Furthermore, students can only recall better when they are preparing for an examination.

D1064

ASSESSING MANPOWER NEEDS IN IMPLEMENTING A TEAM-BASED LEARNING (TBL) CURRICULUM

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Aims

Team-Based Learning (TBL) is commonly assumed to be a cost effective form of active learning. However, the actual manpower costs of implementing a TBL curriculum has never been studied. Assessment of the cost of implementing a TBL program involves defining the structure of a TBL curriculum. Since TBL may be implemented in differing ways, the first aim of this study was to identify the TBL curriculum structure among various medical schools. Once defined, we could assess the associated manpower needs for implementing such a curriculum.

Methods

An electronic questionnaire was distributed to members of the Team-Based Learning Collaborative (TBLC) Listserv due to their familiarity with TBL. We asked medical educators to design a TBL curriculum for medical school by specifying the number of hours dedicated to each type of in-class activity and the associated manpower required to deliver each activity.

Results

Eleven complete responses were received. Average weekly contact time (in hours) for lecture, IRAT, GRAT, cased-based activity and other small group activities were 1.73, 2.27, 2.36, 7.64 and 1.36 respectively. The number of faculty hours required to prepare a new 1-hour pre-class material, lecture, case, small group activity and examination were, on average, 14.36, 13.45, 20.09, 16.36 and 33.00 respectively. The time taken to revise an existing class activity was less than half of that taken to prepare from scratch, for all 4 activities. Between 2 to 3 full time staff members were required to support the curriculum delivery. There were little differences in manpower needs for a class size of 100 and 200.

Conclusion

With the rising popularity of TBL, information on the manpower needs of implementing a TBL curriculum will be useful in planning and budgeting for schools that are considering this type of pedagogical transition.

D1065

ONLINE CONTINUING PROFESSIONAL DEVELOPMENT FOR FAMILY PHYSICIANS IN EASTERN CANADA

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Aims

Like many areas, Nova Scotia, a province on the east coast of Canada has many family physicians in small communities where there is no onsite continuing professional development (CPD). Because of time constraints and the need to balance personal life with professional responsibilities, even family physicians in larger communities have a need for CPD at time and place convenient for them. The aim of this program is to provide high quality, accredited, economical CPD to family physicians in their communities.

Methods

We use AdobeConnect Pro as an online learning environment to provide interactive one-hour webinars in the evenings to family physicians in Nova Scotia and other provinces in eastern Canada. Learners usually participate from home. They can hear and see the speaker and PowerPoint slides and engage in discussion through text chat. Speakers usually provide the session from their home or office. Information technology support is online to provide technical assistance and a physician-educator moderates discussion. A planning committee of several regular participants selects the topics for each year's webinars. Participants are required to complete an online evaluation form to obtain educational credits.

The program started with a pilot project in 2009 during which we provided regular updates on the H1N1 influenza outbreak. Regular programming began in 2012. The program is funded by Doctors Nova Scotia, the professional association representing physicians and there is no charge for attending. There is no pharmaceutical company involvement.

Results

Attendance has increased as the webinars have become more widely known and word has spread of their popularity. In 2014-15 we presented 21 webinars with a total attendance of 1361 participants (average 65 per webinar). Some regular participants attended even while on vacation thousands of kilometres away, e.g., Bangkok, Los Angeles.

Participants rate the webinars highly. On a 5-point Likert scale (1 strongly disagree; 5 strongly agree) mean ratings were:

- Content was applicable to my practice 4.6
- I gained new knowledge or skills 4.5
- There was adequate time for discussion 4.6
- The presenter was knowledgeable 4.9
- Information was provided without commercial bias 4.9

Cost to produce the program is approximately CAN$67,000 per year which equates to CAN$50 per program-hour.

Conclusion

Our online CPD program fulfills its aim of providing high quality, accredited, economical CPD to family physicians in their communities. While participants indicate a commitment to change practice based on the webinars, we do not have objective evidence of practice change.

D1066

USE OF ELECTRONIC DEVICES TO PREPARE FOR A NATIONAL LICENSE EXAMINATION AMONG MEDICAL STUDENTS IN THAILAND: USE PATTERNS AND PERCEIVED BARRIERS

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Aims

Electronic devices such as mobile phones, and tablets offer medical students new ways to study. Nevertheless, little is known about how pre-clinical medical students in Thailand use these devices in self-study to prepare for their National License Examination, Step 1 (NL1), and what they view as barriers to such use. NL1 is the first step among three sequential examinations, administered by the Medical Council of Thailand, which all Thai medical students have to pass to receive a medical license upon their graduation. Knowledge about electronic device use offers insights into how medical schools should support students in exam preparation. This study is part of a larger study, the National License Examination and Ramathibodi Medical Students' Use of Electronic Devices Survey (NERDS). This initial study focuses on describing device use patterns and perceived barriers among preclinical medical students at the Faculty of Medicine Ramathibodi Hospital, Mahidol University, Thailand. We presented preliminary findings as a poster at a local medical education conference in Thailand in August 2015. This is an updated report with additional findings.

Methods

We conducted a self-administered paper-based survey to the entire class of third-year medical students (with the exception of two co-authoring medical students) in May 2015. Study participation was voluntary. There were 41 items in a 5-page questionnaire.

Results

There were 156 responses (89.7%) received among 174 eligible subjects. The overwhelming majority of respondents used smartphones (89.7%) to study for NL1 during the last month before the exam, while 76.3% used tablets, 65.4% used notebooks/laptops, and 33.1% used desktop PCs. iOS-based smartphones (76.9%) and tablets (94.7%) were more common than Android-based or Windows-based devices. Common reasons for use were to search for meaning of terms via either online search engines or dictionary applications (92.3%); searching for additional information about a topic (87.7%); searching for visual contents that help explain a topic (87.7%); practicing exercises or sample exams (85.8%); consulting others online on a topic via social media (84.0%); and studying classroom materials (80.0%). Only 32.9% used devices to organize an online study group and 14.3% studied interactive contents. From a 5-point Likert scale, most students identified distraction from games or social media as a very serious or serious barrier to use of electronic devices for NL1 self-study (71.0%), while only 26.5% and 23.7% considered mobile signal performance and on-campus Wi-Fi signal performance a very serious or serious barrier. Few students considered availability of electronic contents, costs of applications, costs of mobile data plans, and availability/access to devices with desirable specifications as barriers to device use.

Conclusion

Most of participating medical students used smartphones or tablets to self-study for a license exam, with iOS the platform of choice. Common reasons of use were primarily to access additional contents or materials in alternative forms to aid their understanding. Distractions from games or social media were a major barrier to effective study. Future studies should evaluate how such distractions affect their exam results or academic performance.

HOW TO GET BUSY CLINICIANS TO DO E-LEARNING?

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Aims

In this study, we assessed different strategies which encourage busy senior residents (SRs) to interact with self-learning material made available online.

Methods

E-learning video content was made available for self-learning of CT reading by SRs in the Division of Respiratory & Critical Care Medicine. The focus was not on content, but the process encouraging SRs to engage the material in a timely manner. The platforms utilized were a learning management system, youtube for uploading the videos and email.

Results

After initial interest in the content hosted at a learning management system by topic, most of the SRs (8/12) stopped logging into the site. We then enabled direct access by posting links of cases with questions via email to the SRs. Links to the discussion/answers were sent within a week after receiving replies to the questions posted. Less than a handful of SRs viewed the content and even fewer answered the questions. The approach was modified to presenting factual material accompanied by an illustrative case. This approach received no hits and was abandoned. Besides the lack of questions, the email had a mundane title, "Nice article and illustrative case of the week." When a title that invoked the curiosity of SRs was used, eg "Not in Prof's database!" it achieved a higher number of views,(8 hits) but still no answers/replies from the SRs. We went on to utilize an enticing title in combination with an expiration date for the video links. This achieved a maximum number of 12 views (including 4 replies) within 24 hours. Entitled "Amazing what a perfectionist worries when writing bronchoscopy reports," the content included "click link below (within the next 24 hours before link expires) to learn why." Finally, we delivered topics in weekly installments (eg week 1 installment 1: CT-bronchoscopy correlation) with links expiring at the end of the week, before the next topic). Periodically, email installments included content that invoked their curiosity eg Title: Would you do a bronchoscopy? Question: "Spot diagnosis for SUPER case of the month!" This strategy promoted SR engagement (9/12 views with 4 answers) and even resulted in requests to keep the links active for more than a week.

Conclusion

Merely making educational content available for mobile-learning by busy clinicians does not promote active use of the content. Strategies that encouraged timely viewing and participation include ease of access, including questions, stirring their curiosity and a time-limited structure for each topic.

D1068

ENGAGING PASSIVE LEARNERS: A CHANGE IN TEACHING APPROACH

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Aims

Introduction: Bedside teaching session remains to be the core activity in clinical teaching. Active learner participation is key to effective bedside teaching. However, medical students tend to be more passive and less interactive, putting clinician educators in dilemma.

Objective: To evaluate learners' perception towards changes in bedside teaching approach

Conclusion: Learners are always more interactive when the teacher adapts a more student-centred approach.

Methods

A major change, shifting from the usual, traditional teacher-centred approach towards a more learner-centred strategy was implemented in the weekly O&G bedside teaching session with final year medical students. An online evaluation survey was conducted after the session, using Likert scale (1 to 5) to document learning experience of learners.

Results

36 medical students responded (83,3% response rate) to the online evaluation. Most indicated high level of score (good to excellent) for the learning environment (weighted average: 4.80 - 4.90), focus on student learning (4.70 - 4.80), planning and delivery of session (4.63 - 4.83) and an overall impression of 4.80 - 4.90. The written comments also indicated active participation of learners were enhanced when the learning environment was less threatening and punitive.

Conclusion

Learners are always more interactive when the teacher adapts a more student-centred approach.

D1069

FACTORS ASSOICATED WITH ACGMEI DUTY HOURS VIOLATION AMONG PEDIATRIC RESIDENTS IN QATAR

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Aims

The new ACGMEI duty hour's regulation of maximum 80 hours work per week, 24 hours off per 7 days averaged over 4 weeks period was proposed to enhance resident's quality of life, residents learning and improve safe patients care in teaching hospitals. These standards were implemented in our paediatric residency program starting 2012; however, residents' opinion on the new changes, compliance and potential reasons for violation of the duty hour standards have not been evaluated .The aims of our study is to explore pediatrics residents' experience with ACGMEI -Duty hour's regulations and identify the factors associated with violations of these rules.

Methods

An electronic survey was distributed between February - March 2015 to all 47 pediatric residents enrolled in the pediatric residency program at Hamad Medical Corporation - the main tertiary academic teaching hospital in Qatar, Including questions on compliance and possible factors associated with violations of duty hours. Participants were asked to respond to questioner by using a 5-point Likert scale, ranging from ''never'' to "extremely often".

Results

The response rate was 100 %. Nearly 85 % of residents reported compliance to all of the 2011 ACGMEI duty hour regulations except for the role "in-house call must occur no more frequently than every 3rd night, averaged over a 4-week period" which was reported by only 60 % of the participants. Almost 38 % of participants reported workload intensity and complete paperwork on patients as the major factor contributing to non-adherence with the work hours regulations, followed by the responsibility towards unstable patients and continuity of the care (22%), reduced exposure to challenging clinical cases (22%) and finally Schedule conflict with other educational activities during the free time were described in (18%) of responders.

Conclusion

Our study demonstrate that majority of residents were more likely to report compliance to ACGMEI duty hour's rules. Overburden by workload demands, quality of clinical education and continuity in patient care, were the most reported reasons for noncompliance among pediatric residents in our program. Our findings will be useful to restructure training programs in the efforts to improve compliance with the duty-hour regulations.

D1070

THE RELATIONSHIP BETWEEN FEEDBACK OF RESPIRATION MODULE AND ORAL TEST RESULT IN THE LEVEL 4 STUDENTS AT MEDICAL FACULTY, BANDUNG ISLAMIC UNIVERSITY

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Aims

The learning module is a systematic part is inseparable with the methods of Problem-based learning at medical education academic phase. The respiration module is 17th block at the fourth year in the system of Education Bachelor of medicine, Bandung Islamic University. Feedback is the process of evaluation for the improvement of the program in the future, positive feedback can make self-reflection to find out students' performance. The purpose of this study was to assess the relationship between the feedback with the oral exam score of respiration module on level 4 students faculty of medicine Bandung Islamic University.

Methods

The design of this research approach of cross sectional by using the score on the oral exam results and feedback the test at level 4 student faculty of medicine Bandung Islamic University, with statistics analysis using chi square and the amount of sample of 89 people.

Results

From a total sample of 89 people, the vast majority (51.69%) has a positive feedback, the rest have negative feedback (48.31%). While based on the results of oral examinations at most gain value by category are of 60 students (67.42%) followed by a high value (17.98%) and low values (14.61%). Based on the analysis of the statistics with the Chi square test is obtained there is no relationship between the feedback with the achievement of oral examinations score in respiratory system (p value= 0.89).

Conclusion

Student feedback on blocks of respiration did not affect the achievement of oral exams score at student level 4 Faculty of medicine Bandung Islamic University, because feedback is more aimed to obtain input for the program module that is already running.

SPECIALTY CHOICE AND PERCEPTION OF MEDICAL SPECIALTIES AMONGST MEDICAL STUDENTS IN MALAYSIA

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Aims

To identify specialty preference of Stage 5 medical students at Newcastle University Medicine Malaysia (NUMed) and the factors that influence this choice. To evaluate the perception of different medical specialties by medical students at NUMed.

Methods

The questionnaire was designed following an extensive literature search. A collection of previously validated questionnaires from the available literature and previous Newcastle University questionnaires were compiled. Questions were then added or removed as necessary to focus the questionnaire to the aim of the study and our target population. A pilot study questionnaire was then constructed electronically using Survey Monkey.

Students in Stage 5 of the MBBS course at NUMed were invited to participate. The students were emailed an invitation containing a description of the aims and objectives of the study and a link to the questionnaire. Participation was voluntary and participating students could omit any question they did not feel comfortable answering. Results were exported to Excel for analysis.

Results

83% students completed the questionnaire, average age was 23.9 years. The majority of students (71%) had either a fair idea or had definitely decided on a medical specialty that they wished to pursue. Of those students the most popular specialties are medicine and surgery. General practice was least popular with no students having a preference for this specialty. Of factors affecting specialty choice, personal interest and good career prospects were considered to be most important when choosing a specialty, with parental influence being the least important factor. Questions regarding the perceived characteristics and qualities of doctors in different specialties reveal that the characteristics most associated with surgery were being competitive, arrogant, hierarchical and egocentric whereas medicine was associated most highly with academic medicine and studiousness.

Conclusion

The results of this pilot study reveal that by Stage 5 the majority of medical students have some idea of the specialty in which they wish to pursue their future career, although for many students this is not a definite choice. Previous studies indicate that almost 50% of Malaysian doctors decided on their specialty choice during medical school which demonstrates the importance of careers advice at this stage of medical training. The most popular specialties are medicine and surgery, followed by obstetrics and gynaecology, which is consistent with other studies into specialty preference of senior medical students in Malaysia. Reasons for specialty choice are varied with personal interest, good career prospects and good work-life balance scoring highly. Status and reputation of the specialty and parental influence were seen as the least important factors when considering career choice. In future it is hoped that participation in this study by different stages of medical students will allow analysis of timing of specialty choice, any change in specialty choice over time and whether the perception of different medical specialties varies between different stages of medical students. This will help to provide an effective careers support service tailored to the needs of the students and the medical workforce more widely.

ORGANISING AN INTER-PROFESSIONAL EDUCATION (IPE) WORKSHOP TO FOSTER GREATER COLLABORATIONS AMONGST HEALTHCARE EDUCATORS IN NATIONAL UNIVERSITY OF SINGAPORE (NUS).

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Aims

In 2011, NUS formed an IPE committee comprising of educators from Medicine, Dentistry, Nursing, Pharmacy and Social Work to promote IPE in these 5 curricula. One of the committee's goal is to conduct IPE faculty development workshops for its teaching staff. In 2014, the committee organised a workshop designed to equip educators with basic skills to create Inter-professional education (IPE) programs. The workshop also serve as a forum to encourage dialogue and create opportunities for collaboration among health professional educators.

Methods

Developed by the NUS IPE committee, the workshop included didactic and interactive breakout sessions. These sessions aim to guide participants in creating their own IPE programs by leveraging on existing IPE endeavors, discussing opportunities for collaboration and highlighting challenges faced while implementing IPE programs. An overseas expert was invited to lead the facilitation of the workshop. An 11-item questionnaire was administered at the end of the workshop. It consisted of 8 questions with a 4-point Likert scale (from strongly agree to strongly disagree) and 3 questions for qualitative comments. The questionnaire included questions on contents, format of workshop, facilitators' knowledge and challenges faced in designing and implementing IPE programs. A total of 33 participants from disciplines including medicine, nursing, pharmacy and dentistry attended the workshop. 22 participants (response rate: 67%) participated in the questionnaire.

Results

All the participants agreed or strongly agreed that the learning objectives of the workshop were met, the didactics were useful in their learning. 95% of the participants felt ready to design IPE Programs after attending the workshop while 100% agreed or strongly agreed that the workshop is useful in making them a better healthcare educator. The participants felt that the medical professionals were the most challenging to engage for IPE programs primarily due to their hectic work demands. Nurses were second and the allied health professionals were the easiest to engage. The participants also listed key challenges while implementing an IPE program such as different learning objectives for the learners, difficulties in scheduling, measuring outcomes and changing mindsets.

Conclusion

At the end of the workshop, participants gained adequate knowledge in starting an IPE program, met fellow healthcare educators and identified opportunities for developing IPE programs for their own students and trainees. They added that it was a great forum for them to foster collaborations and share ideas on creating a more vibrant IPE culture in their respective disciplines. Moreover, they were able to brainstorm solutions to the challenges presented such as have a common mandatory curriculum, pilot runs to collect data for feasibility of program and setting out clear learning objectives to clarify individual roles. The participants feel ready to develop IPE programs so as to integrate collaborative practices into clinical care and ultimately, delivering better patient care for the future.

D1073

CREATING MEDICAL INNOVATORS - A WHOLE-BRAIN APPROACH TO HEALTHCARE

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Aims

Development of new medicine, medical devices and medical services are expected along with the changes of demographics around the world, especially in the super-aging society such as in Japan. However, because of little educational experience and lack in knowledge, not many medical doctors are good at developing new innovative medicines and devices. To solve this problem, we have to foster medical doctors who have not only high IQ and technology, but also (1) human skills including high emotional intelligence quotient (EQ), (2) critical thinking and creative thinking, and (3) knowledge of the whole process of development from the seeds to the final medical products and services. The aim of this project is creating medical innovators who will be able to change medicine and medical practice in the future.

Methods

We recruited medical students who were interested in this Creating Medical Innovators course and offered these programs as shown below.

(A) EQ assessment: Medical students take EQ assessment on website which was developed by Six Seconds. Next, they take an interactive group lecture to learn concept of EQ and its importance in medicine. Finally coaching at individual levels is provided via Skype for each student and discussion is made about their own plan to develop EQ.

(B) Workshops: We provide experience-based learning through workshops, where human skills and design thinking (DT) are two major components. Our human skills include mindset, EQ, leadership and team effectiveness (MELT). They improve these skills that we think are required to be medical innovators by attending twice-yearly workshops. We also give them interval projects between each workshop to review and practice what they have learned at the workshops. Most parts of the workshop were conducted by English speaking facilitators. We will re-evaluate their EQ after these workshops.

(C) Research seminars, journal clubs, case conferences, ethical review trails, visiting innovation laboratories and others: We offer them many chances to touch front-line medical innovations. To organize (A) and (B) programs, we collaborated with ALC Education INC.

Results

Sixteen out of 101 1st year medical students attended this program.

(A) After EQ assessment and coaching, the students have payed attention to developing EQ in their personal life. We will present the changes of their EQ assessment results after the 2nd EQ assessment.

(B) They enjoyed the workshop by experiencing and learning DT and MELT. Their comprehension and appreciation of this program improved each time. They used the innovation tools and applied them for their problem solving. One of their achievement was a promotional video they voluntarily made for the new applicant. Some students expressed English comprehension problem.

(C) They were actively involved in the course development and learned the innovative medical sciences.

Conclusion

Our creating medical innovator project is a unique and still in a developmental stage. We are planning to overcome the language barrier, develop original program more oriented to medical students, and cultivate medical innovators.

D1074

"AS SOMEONE WHO PRACTICES PSYCHIATRY, I AM..."- AN EXPLORATORY STUDY USING A MODIFIED TWENTY STATEMENTS TEST

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Aims

This was an exploratory study done with two groups of psychiatry trainees. The first group of psychiatry trainee underwent the five-year residency training program, whereas the second group underwent the basic and advanced specialist training (BST/AST) program. The purpose of this study was to find out how psychiatry trainees describe themselves in relation to their role as psychiatrist. This study will aid in understanding which aspects of the program helps residents in their formation of professional identity as a psychiatrist and facilitates improvement of the psychiatry residency program.

Methods

Sixty two (out of 74: 84% response rate) psychiatry trainees participated in an online survey as part of a larger study looking at the impact of psychotherapy training in psychiatry training. The participants were asked to come up with responses to a modified version of the Twenty Statements Test (TST: Kuhn & McPartland, 1954); a measure of self-concept. Specifically, instead of responding to "I am..." in the original TST, they responded to "As someone who practices psychiatry, I am.." in this study.

For analysis, the participants' responses were first tabulated. Next, preliminary codes were generated using open-ended coding. Thematic analysis was then used to group these codes into meaningful categories.

Results

There were 6 salient categories from the responses. In general psychiatry trainees find 1) 'meaning in practicing psychiatry', at the same time some felt 2) 'burnt out'. The respondents also brought attention to 3) 'patient-doctor relationship which they have to be mindful of'. In addition, many felt that 4) 'psychiatry is a field that many have a misperception of' and they tried to clarify that by 5) 'detailing the duties of a psychiatrist'. Finally, the majority provided a list of 6) 'positive personal attributes' which they think a psychiatrist should have.

Conclusion

This exploratory study provided us with an understanding of how psychiatry trainees view themselves and what psychiatry trainees think the public and other medical specialties perceive of psychiatrist and the field of psychiatry. The next step will be to explore whether how psychiatry trainees view themselves as psychiatrist changes as they progress through their training and if these views impact their learning and patient care.

USING HUMAN PATIENT SIMULATORS AND STANDARDIZED PATIENTS IN INTERPROFESSIONAL EDUCATION - FOUR-YEAR EXPERIENCE

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Aims

The teamwork and communication contribute to successful clinical medical practice. The aim of this study is to develop a new course of interprofessional education (IPE) using human patient simulators and standardized patients for clinical daily practice.

Methods

Since April 2010, we started a series of IPE courses in a single medical center. The contents of the IPE courses included medical simulation, debriefing, and discussion. Both human patient simulators and standardized patients were used in the simulation. After the IPE courses, all the participants completed the questionnaire for assessment.

Results

Between April 2010 and June 2014, a total of 1059 participants (367 teachers and 692 students) joined the IPE courses. Most of them thought that the courses could help the students to increase the desire of learning (teachers and students, 90.2% and 84.4%), to find out the weakness (89.5% and 87.0%), to increase the knowledge, skill, and attitude of teamwork (91.4% and 87.1%), to improve decision making (89.7% and 84.7%), and to know the importance of teamwork (91.6% and 87.4%). They were satisfied with the performance of the students (86.8% and 69.6%), the teachers (88.7% and 84.5%), and the teams (88.7% and 84.5%). They would like to attend the courses again (89.8% and 84.3%). Overall, most of the participants were satisfied with the courses (89.3% and 84.0%).

Conclusion

Both human patient simulators and standardized patients were successfully implied in the IPE for clinical daily practice. The IPE using both human patient simulators and standardized patients is a promising teaching model.

D1076

INVOLVING RESIDENTS IN THE DEVELOPMENT OF AN INTERACTIVE, WEB-BASED LEARNING AND SELF-ASSESSMENT HUB

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Aims

AOTrauma is a worldwide provider of educational activities for residents in orthopedics and has developed a web-based hub for learning and self-assessment (STaRT). To ensure that STaRT meets the needs of residents, learners were involved in all stages of development.

Methods

A general needs assessment was performed in three countries (Brazil, Germany, and Saudi Arabia) with varying residency programs. This was then followed by a targeted needs assessment with 16 residents and 19 program directors. On this basis, goals and objectives for AOTrauma STaRT were formulated and educational methods selected. In 2013, four highly interactive pilot modules were prepared and access was given to 20 residents at different stages of their training, located across 9 countries around the world, representing 6 continents. With 14 of the residents, individual web-based interviews were conducted following their completion of four assigned tasks.

Results

The involvement of residents in the targeted needs analysis revealed their specific needs and preferences with regard to web-based learning and self-assessment. Individual interviews after the completion of tasks on STaRT informed us that the goals and objectives were mostly met and provided suggestions that were applied to improve the content and platform. Our pilot data suggest that interactivity and immediate feedback in asynchronous e-learning environments have a positive influence on residents' motivation to learn. After STaRT's launch in 2014, data collected shows a recurring theme in the responses received during the pilot stage. STaRT as a web-based learning tool provides a tailored solution for focused learning and self-assessment. However, a limitation remains for attaining the needed practical skills.

Conclusion

For effective e-learning, the needs and preferences of residents must be integrated into the development and design of web-based education.

EDGING TOWARDS REALITY - CADAVERS REMOULDED

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Aims

Advanced airway management is an essential skill for healthcare providers. Failure of airway management remains a significant source of morbidity and mortality. Simulation based training has shown to be superior than non simulation based training in this field. However, Simulation of difficult airways in mannequins are limited by the pre set conditions provided by the manufacturer. Lifelike conditions in the form of softness of the tissue and realistic anatomy as seen in cadaver models are needed to resemble and simulate real anatomy. The goal of this project was to determine the feasibility of simulating difficult airway on cadaver models by surgical modification, for the purpose of clinical research and use in simulated airway teaching.

Methods

This pilot study was conducted as a part of CGH Research Grant project.

Two cadaver heads with normal airway anatomy were identified for surgical modification by Maxillofacial surgeons.

The techniques used consisted of the following.

Simulated model 1: Condylar plating was done across the zygomatic arch using syntheses matrix mandibular plates bilaterally. This was done to prevent translation of the condyle, thereby reducing the mouth opening.

Simulated model 2: Wiring was done using 0.4 mm stainless steel wires between the temporal bone and anterior ramus of the mandible bilaterally to restrict the movement of the mandible. A 2.0 screw was placed in the temporal bone via the extraoral approach and lateral surface of the anterior ramus via the intraoral approach before threading of the wires to connect the screws at a preplanned mouth opening.

Results

1. Model 1: The surgical modification resulted in reduction of mouth opening to 1.7 cm. The laryngoscopy view obtained after modification was Grade 4 view, simulating a difficult airway.
2. Model 2: The surgical modification resulted in achieving a pre planned reduction of mouth opening to 2.0 cm. The laryngoscopy view obtained after modification was Grade 3, simulating a difficult airway. 3. The simulated models were tested for ease of intubation using various techniques by 10 participants of a cadaver airway training course held at Changi General Hospital.
4. All 10 participants rated the laryngoscopy view between 2b -4, confirming the successful simulation of difficult airway on cadaver heads.
5. Signs of wear and tear were seen in Model 2, making it less suitable for simulation.
6. Model 1 did not show signs of wear and tear.

Conclusion

Surgical modification of cadaver airway is an unique method of simulating difficult airways on cadaver.

D1078

CLINICAL PRACTISE OF INTEGRATIVE CASE-BASED STUDY ON CLINICAL PHARMACY

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Aims

Participants in our institutional clinical pharmacy case-based study include fourth, fifth, and sixth year pharmacy students, clinical pharmacy trainees, etc. Due to the diversity of students' backgrounds and differences in level of knowledge, we established an innovative and integrated case-based study model that would not only allow us to evaluate the effectiveness of our teaching, but also improve the quality of our case-based teaching.

Methods

Thirty-four students from Peking University Third Hospital participated in our case-based study. Students were stratified based on their training stages and level of clinical experience and randomized to either the experimental group or the control group. A teaching plan and questionnaire was designed. Case discussions were prepared and distributed to students in advance. The control group received the traditional case teaching model whereas the experimental group received an integrated case teaching model. The experimental group would first discuss the details of the case. Instructors and teaching assistants then help students consolidate and apply what they have learned in the classroom. At the end, students were given questionnaire to determine their understanding of the clinical cases. SPSS19 was used to evaluate the results from the questionnaires.

Results

(1) The questionnaire included multiple-choice, true and false, and short answer questions. The experimental group received an overall higher average than the control group in all three sections of the questionnaire. The results in multiple-choice and short answers portion were statistically significant (p<0.05). (2) In regards to students' ability to diagnose patients' clinical status and choose correct medications, there was no statistical significance (p>0.05). However, students' interest as well as students' ability to analyze, problem solve, and provide additional informational about patient cases did achieve statistical significance (p<0.05). (3) Students' responses on their ability to recall knowledge and comprehend the entirety of clinical cases, etc. (7 sections) failed to achieve statistical significance (p>0.05). Students' satisfaction and how the presentation of clinical cases influence their learning achieved statistical significance (p<0.05) with a higher rating from the experimental group compared to the control group. (4) In regards to evaluations of instructors, both the experimental group and the control group rated highly of the instructors and teaching assistants. Therefore there was no statistical significance (p>0.05). (5) Both groups underwent self-evaluation. There was a statistical difference (p<0.05) in whether students self-prepared before the case-study. In the experimental group, 58.8% of the participants prepared ahead of the time, with 52.9% of participants being satisfied with their performances during the clinical case discussions. In contrast, only 5.9% of participants in the control group self-prepared ahead of time, with 17.6% of participants being satisfied in their performances during the clinical case discussions.

Conclusion

The integrative case-based study produced beneficial results, with students achieving a higher learning standard regarding their ability to understand, analyze, and recall knowledge in the clinical cases, as well as to pique students' interest and improve the learning environment. Students in the experimental group excelled over students in the control group.

D1079

DEVELOPING A PHYSICAL EXAMINATION TEACHING ASSOCIATE (PETA) PROGRAM IN MEDICAL SCHOOL

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Aims

Physical Examination Teaching Associates (PETAs) are simulated patients (SPs) trained to teach the techniques of physical examination. PETAs act as patient models, providing learners the chance to practice physical examination technique while providing feedback on technical and communication skills as well as patient safety. The Yong Loo Lin School of Medicine aimed to train SPs to become PETAs and to assess the efficacy and acceptability of this methodology among students

Methods

20 SPs who had training in giving feedback and at least 2 years of SP experience were selected. The first training activity was a 2-day interactive session focusing on locating human anatomy & the introduction of medical terminology. Pre-reading material was circulated electronically to the trainees one month prior. A follow-up online theory test was conducted to evaluate the SPs' understanding.

One month later, 16 PETA-trainees attended the second training session which consisted of a 3-day workshop run in collaboration with faculty from Eastern Virginia Medical School. The workshop focused on physical examination techniques and verbal facilitation skills. Nine male SPs were trained on cardiovascular and respiratory examination while 7 female SPs were trained on neurological and abdominal examination. The trainees were assessed on the last day of the workshop. Fourteen trainees were suitable for further training.

Two more 2.5-day refresher workshops had to be conducted to reinforce their skills. They were rigorously assessed for competency. 7 trainees were certified PETAs after a 2-year journey.

In 2014 and 2015, the PETA trainees/PETAs participated in a physical examination practice session with second year medical students without and with feedback respectively. An online survey on the student's learning experience was conducted immediately after the sessions.

Results

In 2014, all 37 respondents wanted feedback from the SPs. Those that received feedback although the SPs were instructed not to, felt that it was useful and helped them be more aware of patient comfort. 22% felt having an SP guide them through examination technique would not be useful. Concerns were confusion from different techniques and the SP not being medically trained.

In 2015, 82% of the 56 respondents felt the SP feedback was useful. 46% agreed that SPs could guide them on examination techniques in a tutorial. Those that disagreed had concerns about being misled by the PETA because of discrepancy with faculty-taught techniques. 91% felt more confident with physical examination after their practice with the PETA. 68% felt that they would have benefitted from longer practice sessions.

Conclusion

Simulated patients can be trained to teach physical examination techniques. The process involves significant investment of time and effort as SPs are usually lay people. Practice sessions with PETAs increased student confidence and students valued immediate verbal feedback from the PETAs. There were some concerns with inconsistency of techniques between faculty and PETAs, emphasizing the need to standardize basic physical examination techniques early in the education of medical students. This may be achieved by using PETAs as instructors for the basic technique and faculty can focus on refining technique and teaching clinical relevance.

D1080

AN APPRAISAL OF CAI IN HISTOLOGY PRACTICAL CLASSES OF ANATOMY IN UNDERGRADUATE MEDICAL EDUCATION OF BANGLADESH: STUDENTS' AND TEACHERS' PERCEPTION

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Aims

The recent trend in Histology education has been to incorporate computers into both instruction and independent study. This study aims to assess the students' and teachers' perceptions regarding application of computer-assisted instruction (CAI) along with microscope in undergraduate Histology practical classes of Anatomy in Bangladesh.

Methods

This descriptive type of cross-sectional study was carried out in ten medical colleges (four public and six private) of Bangladesh from January 2014 to December 2014. Convenient sampling technique was adopted and data was collected by the researcher herself. A total of 824 1st year MBBS students, who were agreed, were enrolled in a survey; 480 from public and 350 from private medical colleges. A total of 21 Anatomy teachers, who facilitated students' learning in Histology practical classes and were willing to participate in the study were enrolled for in-depth interviews. A semi-structured questionnaire having multiple response answers was used for obtaining information from the students. For each variable in the questionnaire, the frequency for each selection was calculated. Qualitative information was collected through a face to face in-depth interview with the teachers using a semi-structured interviewing guideline. For the in-depth interviews, content analyses of the responses were done.

Results

Students' survey findings revealed that most of the respondents (95.6%) agreed upon the use of computer application along with microscope. In accordance to that mainstream of the respondents (88%) expressed that through CAI, better features of the slides can be observed, 57% respondents viewed that application of CAI seemed to be encouraging and interesting to them, 48% considered that every student could observe the same slide, 38% thought that over dependency on the teacher could be reduced. About 9.4% indicated some other advantages that were not mentioned in the questionnaire, like "helps in proper understanding", "longtime memorization", "off campus excess", "less time consuming" etc. A majority of the teacher respondents (85%) noted that it would be very much helpful to incorporate CAI along with microscope in Histology practical classes. They viewed that CAI would create interest, helps in better understanding, permit everyone to view same figure, enable more students to be taught at a time, cover information gap of the slide, cover more content within limited time period and decrease dependency on teacher.

Conclusion

Study purpose in obtaining feedback from the student and teacher respondents was to ensure a quality learning experience they felt comfortable with. After analyzing different findings of the study, it may be assumed that application of CAI in Histology practical is a very acceptable and useful teaching-learning method in acquiring the skills and practical knowledge of Histology. Computer imagery can provide a more valued educational experience and provide tools for educational enquiry and problem solving.

D1081

CULTIVATING COMPASSION WITHIN THE WORKFORCE

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Aims

The Cultivating Compassion Project was developed in response to a call for bids from HEKSS to provide compassion awareness training. A team from University of Brighton and Surrey, Brighton & Sussex Medical School (BSMS) and Brighton & Sussex University Hospital (BSUH) collaborated to develop a proposal which built on previous research, practice and educational expertise in the areas of professionalism and ethics in healthcare practice. (Adamson et al 2012, Banks and Gallagher 2009, Cornwell and Goodrich 2008, DH 2013).

Aims and Research Objectives:

Develop a sustainable and evidence based programme of compassion awareness training. To engage effectively with healthcare staff, building on existing organisation initiatives to promote compassionate care. To generate compassion indicators and digital stories from healthcare workforce to contribute to the toolkit. Finally to evaluate the 'train the trainers' approach, the use of the compassion leads and the compassion toolkit.

Methods

Following review of the literature on compassion, the team developed a cultivating compassion toolkit. Some of the toolkit resources such as digital stories and compassion indicators were developed with healthcare practitioners within local NHS organisations. The resources when used varied from 10 minute exercises to whole half day workshop material. Training the trainer' workshops were ran and the toolkit was further developed following the feedback from these workshops ensuring the organic nature of the toolkit. Evaluation of the project involved questionnaires, focus groups, semi structured interviews with users and senior staff within BSUH.

Results

The evaluation of the workshops were positive with participants seeing themselves as being able to use some of the resources themselves as aids to compassionate discourse within the workplace. Many of the participants have used the toolkit either within separate training sessions or as part of existing programmes. Many participants have been able to use resources in the clinical setting rather than the need to take healthcare workers out of the clinical environment. The most popular resources within BSUH were digital stories and activity cards.

The main themes arising from evaluation data were:

a new lens on compassion

confidence in initiation discourse about compassion

compassion training/dissemination enablers and challenges

integration and sustainability within the NHS organisation

Conclusion

Factors for success of the project included, flexibility in the design and accessibility of activities within the toolkit. The importance of engagement of multidisciplinary leaders within the organisation that supported and encouraged staff to disseminate the toolkit. Another facot for success was the embedding the project within existing training programmes and aligment of the project alongside the Trusts' own organisational 'values based' initiatives.

D1082

PHYSICIAN BURNOUT AMONGST RESIDENTS IN SINGAPORE

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Aims

Burnout in medical professionals is known to play a major role in their mental wellbeing, as well as contributing to poorer patient outcomes. Its prevalence amongst local physicians undergoing residency training, with its attendant responsibilities, expectations, and stresses, has yet to be studied.

Methods

The Maslach Burnout Inventory-Human Services Survey (MBI-HSS) and a self-designed questionnaire evaluating demographic characteristics were completed voluntarily by 446 residents (52.6%) of all years of training in a single institution over 6 months. A cross-sectional burnout profile was constructed and analysed.

Results

The MBI-HSS shows acceptable internal consistency and reliability in the local context, with a Cronbach's $\alpha\pm$ of 0.848. 72.9% and 63.9% of residents reported high levels of Emotional Exhaustion (EE) and Depersonalization (DP) respectively. This was matched by the prevalence of high Personal Accomplishment (PA) (55.38%). Analysis of scores by demographic characteristics showed that age was a protective factor against burnout, with older residents reporting lower levels of Depersonalization ($p=0.049$); marital status and having children did not affect burnout scores.

Conclusion

Burnout rates amongst respondents were high, exceeding those reported in various regional and Asian institutions. Family demographics such as marriage, which have been reported as having a protective effect in international institutions, had no bearing in the local context. Further study into protective/risk factors for burnout may be warranted, in order to better direct the identification and intervention of burned-out residents.

LEARNING STYLES AND STRESS LEVELS: DOES IT WORK FOR STUDENT'S PARTICIPATION IN TUTORIAL?

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Aims

Tutorial is one of the learning strategies in a competency-based curriculum (CBC) with Problem Based Learning (PBL) approach in Faculty of Medicine, University of Muhammadiyah Malang (FM UMM). Tutorial has an important role because it has a positive relationship with learning outcomes. Every individual has learning styles that need to be understood in order to optimize the learning process and result. Various problems may arise during tutorial as source of stresses. There is no research's results showed the relationship between students' learning styles and stress level with their participation in the tutorial yet. Given the importance of tutorial in learning process and the low rate of active participation of students in tutorials on FM UMM, it is necessary to identify several student's internal factors including learning styles and stress levels in relation to active participation in tutorial.

Methods

The research's design is a cross sectional study with 480 students at Faculty of Medicine, Muhammadiyah Malang University as respondents.

Results

Multivariate analysis with logistic regression demonstrated variables that can increase active participation in tutorials including activist learning style (OR: 2.898 [95% CI 1170-7175) and older age (OR: 1.31 [95% CI 1118 -1536). While low stress level (OR: 0.642 [95% CI 0425-0972]), high schooling in Java (OR: 0.433 [95% CI 0249-0755]), facilitators from clinical departments (OR: 0.633 [95% CI 0412 -0972]), and autonomy personality (OR: 0.101 [95% CI 0025-0403]) can inhibit the active participation of students. All variables had statistically significant relationships ($p <0.05$) with active participation of students in tutorials.

Conclusion

The active participation of students in tutorials is related to learning styles, age, stress levels, origin of high school, facilitator's department and student's personality. This study indicate that type of coping stress, experience, culture of the students, prior knowledge and prior experience of the facilitators can influence students participation in the tutorial. Several recommendations of this study have proposed; among those are teachers need to develop their teaching strategies which will accommodate all of students learning styles, and improve the student's learning process in tutorial, as well as help the students to manage their stress.

D1084

NURSES TEND TO GIVE LOWER RATING FOR POST-GRADUATE YEAR 1 MEDICAL TRAINEES BASED ON MULTI-SOURCE FEEDBACK

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Aims

Multi-Source Feedback (MSF), also known as 360-degree assessment, is one of the important workplace-based assessment tool in clinical practice. MSF has been used to assess the clinical performance of medical trainees for decades. It has become a mandatory assessment for the first year post-graduate (PGY1) medical trainees in Taiwan since 2011. MSF can be used by different roles around the medical trainee such as supervisor, peers, interns/clerks, chief residents, nurses, and patients to assess the medical trainee. This study aimed to examine the factors associated with rating results of MSF for PGY1 medical trainees.

Methods

The rating results of MSF, using modified mini-PAT as the rating tool by nurses, supervisors and peers, for 137 PGY1s in the 2013-2014 academic year were retroapectively reviewed. Independent varibles such as rater's age and gender, PGY1's age and gender, and the department where the MSF was conducted, were collected. We used multivariate linear regression analysis to examine the statistical associations between independent variables and rating outcome.

Results

We found that: (1) older raters tended to give lower ratings; (2) male raters tended to give lower ratings; (3) raters in Surgery and OB/GYN gave higher ratings than those in Internal Medicine and Pediatrics; (4) nurses were more likely to give lower rating than peers and supervisors; (5) the rating results of male raters/male medical trainees were significantly lower than those of female raters/female medical trainees, female raters/male medical trainees and male raters/female medical trainees.

Conclusion

Although MSF has been recognized as an effective assessment for health care workers in workplace, some studies expressed concerns about rating accuracy, either over-estimating or under-estimating the performance of trainees being rated. Our study reported that rater groups, rater characteristics, medical trainee's characteristics, and the department where the assessment was conducted were significantly associated with rating results of MSF. The results were expected to provide more convincing evidence for interpreting the rating results of MSF for medical trainees.

E-POSTER PRESENTATION – SESSION 3

STATION 1

D1085 **Medical General Practitioners' Perceptions of Interprofessional Collaboration, Roles and Competencies of Healthcare Professionals; Insight for Practice and Education**
Vishna Devi V Nadarajah

D1086 **E-Tutorial to Enhance Learning of ENT Anatomy**
Ang Eng Tat, Singapore

D1087 **Maturity Rather Than Residency Seniority Predict Self Learning Success**
Matthew Tan, Singapore

D1088 **Comparing Graduate- to Undergraduate-Entry Medical Program: A Review of Literature**
Masako Sugihara, Japan

D1089 **A Case-Based Guide for Minimum Essential Requirements in Medical Education----Beijing Medical Students' Perspectives**
Wang Hongman, China

D1090 **Pilot Study - Improving Inter-Professional Collaboration Readiness Among Healthcare Students Through a Multi-Disciplinary Home Care Programme**
Lee Si Min, Singapore

D1091 **Value of OSCE as Assessment Tools in ACGMEI Pediatrics Residency Program: Qatar Experience**
Eman Al Maslamani, Qatar

D1092 **Scalable Models for Sustainable Global Development of Medical Education: One to One Hundred Medical Schools at a Time**
David Cawthorpe, Canada

STATION 2

D1093 **Community Oriented Projects in Medical Curriculum -Experience from Brunei Darussalam**
Kifli Nurolaini, Brunei

D1094 **Continuing Medical Education: An Explorative Method in Teaching Clinical Empathy to Post-Graduate Year 1 Residents**

Maleena Suppiah, Singapore

D1095 **Evaluating Differences in English Phrasing and Terminology in Peer-Reviewed Medical Journals in the Field of Pediatric Oncology: A 10 Country Comparative Study**
Alberto Gayle, Japan

D1096   **Posters and Education in a Resource Limited Environment**
Sarah Edwards, United Kingdom

D1097   **Hand Hygiene in a Resource Limited Clinical Environment**
Phyllida Roe, United Kingdom

D1098   **Yong Loo Lin School of Medicine Students' Perceptions on Simulation-Based Teaching in the Phase IV Obstetrics & Gynaecology (O&G) Posting**
Ho Ban Shian Karen Alma, Singapore

D1099   **The Cadence Programme - A Peer Led Teaching Initiative for the MRCP Paces Achieves a Significantly Better Pass Rate**
Mark Cheah, Singapore

D1100   **Challenges and Experiences of a Student-Led Research Society - A Descriptive Report of the Wong Hock Boon Society**
Gerald Sng, Singapore

STATION 3

D1101   **Engagement With Online Learning: Exploring the Effects of Course Design and Student Motivation**
Diane Kenwright, New Zealand

D1102   **ReLOT - Residency-Led Obstetrics and Gynaecology Teaching**
Charissa Goh, Singapore

D1103   **Demystifying Pathology - Journey of a Specimen from the Operating Theatre to the Pathology Laboratory, a Video**
Nandini C L Rao, Singapore

D1104   **Method and Implementation of Early Clinical Practice in Medical Education**
Zhao Changying, China

D1105   **Driving the Outcome - NICU-Integrated Teaching and Learning in an Undergraduate Paediatric Curriculum**
Stefan Kutzsche, Malaysia

D1106   **Resident and Faculty Perspective on the Remediation Process for Singhealth Anaesthesiology Program (SHARP) Residents**
Tan Zihui, Singapore

D1107   **Use of a Facebook Group in Anatomy Education: A Pilot Study**
Chamara Sampath Paththinige, Sri Lanka

D1108   **The Pediatrics Mini-CEX Project at Kuwait University Phase One: The Development and Initial Implementation of the Mini-CEX to Assess the Clinical Competencies in Pediatric Undergraduate Medical Students**
Dalia Al-Abdulrazzaq, Kuwait

STATION 4

D1109   **Attitudes Towards Research Amongst Anaesthesia Faculty**
Shahla Siddiqui, Singapore

D1110   **Comparison of Students' Characteristics, Self-Motivation, and Self-Directed Learning Readiness Between the First-Year and Clinical Year Students at Maranatha Christian University: Mixed Method Study**
Rimonta Gunanegara, Indonesia

D1111   **Is There a Role for the Use of Aviation Assessment Tools in Surgical Education? A Pilot Study**
Ian Yeo Yew San, Singapore

D1112   **Floor Mapping: A Novel Method of Integrating Anatomical Structure with Immunological Function**
Claire Vogan, United Kingdom

D1113   **Concept Paper: Near-Peer Teaching of Pre-Clinical Students by Clinical Students through Integrated Clinical Cases**
Yii Zheng-Wei, Singapore

D1114   **Description, Perceptions and Roles of Clinician-Educators in Emerging Graduate Medical Education Systems: A Multi-National Survey Study**
Sophia Archuleta, Singapore

D1115   **Comparison of Symptom Based and Disease Based Vertically Integrated Blocks in Early Years of Undergraduate Medical Curriculum**
Muhammad Faisal Ikram, Saudi Arabia

D1116   **Residency Core Education Programme- Ethics and Professionalism Module Development**
Roy Joseph, Singapore

D1085

MEDICAL GENERAL PRACTITIONERS' PERCEPTIONS OF INTERPROFESSIONAL COLLABORATION, ROLES AND COMPETENCIES OF HEALTHCARE PROFESSIONALS; INSIGHT FOR PRACTICE AND EDUCATION

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Aims

Inter-professional collaboration (IPC) is defined as the occurrence of multiple healthcare workers from different professional backgrounds working together with carers, patients, families and communities to deliver the highest quality of care. General practitioners (GPs) are medical practitioners who provide comprehensive primary care in the community. The development of IPC in healthcare system must consider how GPs can enhance their role in the healthcare system. A study targeting practicing GPs in Kuala Lumpur was conducted to obtain an insight on GPs perception towards IPC and other healthcare professionals' roles and competencies.

Methods

A descriptive study was conducted using self-administered, structured questionnaire amongst 260 GPs in the Kuala Lumpur. The Role Perception Questionnaire (Mackay, 2004) and Competencies of Members of the Healthcare Team Questionnaire were used to determine GPs perceptions towards roles and competencies of their own profession and towards other healthcare professionals. Attitudes toward healthcare teams' scale was adopted from Heinemann GD and used to determine GPs attitudes towards IPC. There was also a section with open ended questions on challenges and suggestions to promote IPC.

Results

Mean scores were calculated using SPSS and compared between different professions. GPs perceived the roles and competencies of each healthcare professional differently in several aspects. In general, GPs rated themselves significantly higher on competencies related to patient assessment and disease management compared to other health professionals (dentists, nurses, pharmacists and dieticians). However for preventive care they rated dieticians with the highest competency. Overall GPs show positive attitudes towards team working and are ready to bear the legal responsibility for decision making as part of doctors' roles. Interestingly GPs perceive that barriers to IPC in their settings are increased costs and time when collaborating with other health professionals, poor communication skills, role boundaries by professional and regulatory bodies and hierarchical structure of the healthcare system. GPs suggests that to overcome these barriers, GP or community practice needs to offer inter-professional services, improve undergraduate and post graduate training in IPC and creating interdisciplinary continuing medical education opportunities.

Conclusion

This study reflects the perceptions of GPs who are currently in practice of healthcare professionals' roles, competencies and their attitudes towards IPC. There are certain gaps in GPs understanding of other healthcare professionals' roles and competencies but it seems that GPs do see the need to overcome barriers in practice. Hence, investment into inter-professional education at both undergraduate and postgraduate level is needed to foster better understanding of each healthcare professional's roles, build good inter-professional relationship and practice.

D1086

E-TUTORIAL TO ENHANCE LEARNING OF ENT ANATOMY

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Aims

The use of E-tutorial to achieve specific aims has been attempted in other parts of the world, with fairly convincing outcomes. We hope to emulate this pedagogy to teach medical students basic anatomy of the ear, nose, and throat (ENT) in a clinically orientated manner. This will be in the form of short E-tutorials (duration <15 mins) that can be stored in a depository server, ready to be accessed by interested parties. We believe this study will help to differentiate myth from reality in the fast changing medical education landscape.

Methods

Medical students from 4 clinical groups were designated for the study, and told what to expect during the proceedings. The total number of students was n=30, with approximately equal number of males and females. They were generally about 19-21 years old in their first year of medical school. As a pre-requisite, it is assumed that all students would have already attended the relevant lectures concerning the larynx and pharynx.

Results

The survey outcome suggest that the students enjoyed learning the anatomy of the pharynx and larynx much more with E-tutorials compared to conventional tutorials.

Conclusion

We believe that there is value adding benefits associated with the E-tutorial format that can be harnessed to enhance medical education. Students have expressed interest in this pedagogy but we must not disrupt the status quote too much, and get carried away by all these multimedia augmentations. The important thing is to stay open to new ideas, and presentation formats, and to always remember students learning habits have changed since our own experience some decades ago. The age of information technology is here to stay, and as educators, we must embrace "change" while remaining faithful to the content.

D1087

MATURITY RATHER THAN RESIDENCY SENIORITY PREDICT SELF LEARNING SUCCESS

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Aims

Primary aim:

To assess Singhealth internal medicine residents self learning ability through an online quiz administered a week after self-reading material were provided.

Secondary aim:

To assess Singhealth internal medicine residents learning-style preferences.

Methods

61 Singhealth internal medicine residents were enrolled into this pilot study They were given one week to study a self-reading material on osteoporosis and calcium disorders before they were given a short online quiz comprising of 10 MCQs.

They were also asked to feedback on their prefered learning-style preferences based on a 1 to 5 likert scale for a series of statements that compared one type of learning or teaching style with another, where 1 = strongly disagree to 5 = strongly agree.

Results

61 Singhealth internal medicine residents (31 woman, 30 man), mean age 28.7 (SD 2.6) with average year of graduation from medical school 2011 (SD 2.7), and with about equal representation from the three years of residency (residency year 1 to year 3) participated in this study.

Mean quiz score was 4.5 (SD 1.8), and the factor that correlated with higher quiz score was year of graduation (r=-0.337, p=0.008), but not year of residency (r=0.121, p=0.354). 40 out of the 61 residents who answered the quiz gave feedback on their teaching style that they prefer. On average, they disagree with the statement "prefer self-studying to learning" with a mean score of 2.8 (SD 1.0) out of 5, and they agree with the statement "prefer lecture to small group" with a mean score of 3.4 (SD 1.0) out of 5.

Conclusion

Maturity, using year of graduation as a surrogate, predict better self-studying performance rather than residency seniority in this study. Residents seem to prefer lecture over self-studying or small group teaching. This has implication on how we structure our post-graduate training and education.

D1088

COMPARING GRADUATE- TO UNDERGRADUATE-ENTRY MEDICAL PROGRAM: A REVIEW OF LITERATURE

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Aims

Introduction of a four-year graduate entry (GE) medical program has been long discussed in Japan without significant progress. It has been pointed out that we should evaluate the graduate students incorporated as a second or third year into undergraduate entry program before considering GE medical school in Japan. However, a moderate number of studies about graduate and undergraduate entrants have only recently done even in preceding countries such as Australia, United Kingdom, and Netherland. So the aim of the current study is to review quantitative and comparative studies between graduate- and undergraduate-entry medical students to assess entrants of both programs.

Methods

Electronic database (PubMed) was searched and further relevant studies were contacted.

Results

Twenty five studies regarding comparing graduate- with undergraduate-entry medical students were found. Seven studies examined performance and three psychological factors. Eight examined attitudes including motivation, learning approach, or perception of professionalism. In four studies, choice of carrier were discussed. One study demonstrated the research-based and clinical module of the two groups. Three examined the backgrounds both of graduate and undergraduate entrants. Some articles found the superiority of graduate entrants and others found that of undergraduate entrants. However, as a whole, the difference between graduate and undergraduate entrants was emphasized in most articles.

Conclusion

The current study indicated that it cannot be told that whether graduate- or undergraduate-entry medical students are better, but can be told that they are different. Further study is needed to examine how and why graduate- or undergraduate-entry medical program work in order to advance medical education.

D1089

A CASE-BASED GUIDE FOR MINIMUM ESSENTIAL REQUIREMENTS IN MEDICAL EDUCATION----BEIJING MEDICAL STUDENTS' PERSPECTIVES

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Aims

This paper presents the current status of knowledge, attitudes and practice on Global Minimum Essential Requirements in Medical Education (GMER) among medical University students in Beijing, and provides useful references on the development of local minimum essential requirements, in short, "thinking globally and acting locally".

Methods

A multi-stage stratified cluster sampling method was adopted, and a total of 385 medical students from two famous medical universities in Beijing were investigated by means of questionnaires in April 2012. The database was then analyzed with descriptive methods.

Results

The awareness rate of the GMER was less than 2%. Each of the seven domains of the GMER was recognized by more than 95% of all the respondents. More than half of the respondents agreed that "communication skills with patients" and "critical thinking" of medical graduates needed to be improved urgently.

Conclusion

The awareness rate of the GMER among medical students was not encouraging. However, the seven domains of the GMER were wildly recognized. Combined with the former results, this further confirms that, to some extent, the GMER provide suitable "basic requirements" for the evaluation of our medical graduates. Based upon our experience and reflection, we offer some practical approaches for the development of local minimum essential requirements in medical education.

D1090

PILOT STUDY - IMPROVING INTER-PROFESSIONAL COLLABORATION READINESS AMONG HEALTHCARE STUDENTS THROUGH A MULTI-DISCIPLINARY HOME CARE PROGRAMME

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Aims

Inter-professional education (IPE) is an important aspect of undergraduate training. While many studies focused on the institution based inter-professional education programme, the role of student initiated project in promoting inter-professionalism is not well studied. Hence, we are conducting a pilot study to investigate the effectiveness of a student-initiated project, Tri-Generational Homecare (TriGen), as a platform to improve collaboration between students from various healthcare disciplines.

Methods

TriGen is a student-led, professionals-supported programme involving undergraduate students from four different disciplines (Medicine, Nursing, Pharmacy and Social Work) in National University of Singapore (NUS). The programme is developed to complement Khoo Teck Puat Hospital (KTPH)'s Aging-in-Place (AIP) programme, which aims to reduce hospitalization rates among patients who are frequently re-admitted.

Students undergo three training sessions by healthcare professionals from KTPH and the student organisers. They are allocated into teams of two to three students from different disciplines and carry out fortnightly visits to patients under AIP over six months. During every visit, the students would conduct routine health checks and evaluate the participants' medical, social and financial issues. Students have an opportunity to bring up issues identified and their proposed management plan during two multi-disciplinary meeting chaired by healthcare professionals.

The Readiness for Interprofessional Learning Scale (RIPLS) is a 19-item scale designed to measure students' readiness for interprofessional learning. This was administered at the start and will be at the end of the programme to assess the programme's effectiveness.

Results

44 students out of 52 students successfully completed the pre-cycle survey. The distribution of faculties was 23.1%, 17.3%, 48.1%, 11.5% from Medicine, Nursing, Pharmacy and Social work respectively. The proportion of students from Year 1, 2, 3 and 4 are 38.8%, 36.5%, 28.8% and 3.8% respectively.

Baseline RIPLS total score from pre-cycle survey ranged from 59 to 79, with a mean of 68.8 (S.D = 5.0). There was a statistically significant difference between students of different years as determined by one-way ANOVA ($F(2,41) = 9.704$, $p < 0.0001$). A post hoc Tukey test showed that the score was statistically higher in the Year 3 students (69.3 ± 4.1, $p = 0.032$) and Year 4 students (72.7 ± 4.0, $p < 0.001$) as compared to the Year 2 students (65.4 ± 4.6). There were no statistical difference between students of different disciplines, with previous IPE experiences, or who had experience volunteering in healthcare settings.

Pre-cycle data will be compared with post-cycle data when they are collected at the end of last home visit.

Conclusion

Our pilot study demonstrated that senior students are associated with a more positive attitude towards IPE. This is possibly reflect the success of the curriculum in promoting IPE. Interestingly, there is no difference between students of difference courses as compared to a previous study in Singapore where medical students had the highest score. [1] If the programme is demonstrated to be effective, we aim to upscale the initiative so that more students can benefit from the programme.

Reference
1. Ahmad MI, Chan SW, Wong LL, Tan ML, Liaw SY. Are first-year healthcare undergraduates at an Asian university ready for interprofessional education? J Interprof Care. 2013 Jul;27(4):341-3.

VALUE OF OSCE AS ASSESSMENT TOOLS IN ACGMEI PEDIATRICS RESIDENCY PROGRAM: QATAR EXPERINCE

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Aims

Objective structured clinical examination (OSCE) is one of most effective methods for training and assessing clinical competencies. OSCE was implemented in 2011 as a new evaluating tool in our pediatrics residency program; it consists of ten stations, four had simulated patients, each allocated 7 minutes followed by 3 minutes interaction with examiner, stations devoted to asses specific competency as per Accreditation Council for Graduate Medical Education International (ACGME-I) curriculum . Aim of our study is to assess resident in training and faculties' perception, attitudes, and expectations towards OSCE and to explore potential recommendations that can improve its content and effectiveness.

Methods

Cross sectional survey was conducted among examiners and residents at Hamad Medical Corporation in Qatar, after the exam, residents and examiners asked to voluntarily complete a questionnaire designed to evaluate their experience, challenges and opinions about exam.

Results

Out of 46 responses, 28 (6%) were residents, 18(39%) faculties. Almost (60%) of the residents and (95%) of faculties felt that it was well organized and structured with clear adequate instructions were given at each stations. Overall (90%)of respondents agreed that the exam content reflect actual residency training objectives, covered practical topics and task had clinical relevance that highlighted areas of resident's weakness. Although (8%)of participants felt that the examination was stressful, majority of them (95%)reported that OSCE stations were fair and unbiased, (60%)rated OSCE as best educational methods than written exam. Finally, both group agreed that; increasing the duration of stations, exposing residents to regular mock training and better selection of standardized patients could help to strengthen the examination.

Conclusion

Our study demonstrates that residents and faculties perceive OSCE - style examination as valid and reliable assessment tool in Competency Based Education. Previous experience plays a major role in their perception; Main themes emerged from written comments; residents will get benefit in preparation of the final pediatrics board exam; faculties considered OSCE as a valuable education and professional development experience.

D1092

SCALABLE MODELS FOR SUSTAINABLE GLOBAL DEVELOPMENT OF MEDICAL EDUCATION: ONE TO ONE HUNDRED MEDICAL SCHOOLS AT A TIME

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Aims

The purpose of this presentation is to summarize the state of global medical education development and present survey results directed at understanding among listed doctoral medical education programs (FAIMER.org), what, if any, provision for global capacity building is an inherent potential of each program.

Methods

A survey was constructed to tap into three domains: 1) Enrolment capacity 2) curriculum content 3) presence of a capacity building and sustainability model for participating target institutions. These results are pending.

A and B list country criteria: For the current 2016 fiscal year, low-income economies are defined as those with a GNI per capita, calculated using the World Bank Atlas method, of $1,045 or less in 2014; middle-income economies are those with a GNI per capita of more than $1,045 but less than $12,736; high-income economies are those with a GNI per capita of $12,736 or more. Lower-middle-income and upper-middle-income economies are separated at a GNI per capita of $4,125.

By Region	By Income	By Lending
East Asia and Pacific	Low-income economies	IDA
Europe and Central Asia	Lower-middle-income economies	Blend
Latin America & the Caribbean	Upper-middle-income economies	IBRD
Middle East and North Africa	High-income economies	
North America	High-income OECD members	
South Asia		
Sub-Saharan Africa		

http://data.worldbank.org/about/country-and-lending-groups

Typical Conference List fro conference in Singapore: LIST A: Australia, Brunei Darussalam, Canada, European Union countries, Hong Kong, Israel, Japan, Liechtenstein, New Zealand, Norway, Singapore, South Korea, Switzerland, Taiwan, USA; LIST B: All countries not listed in List A.

All Master and PhD Medical Education Programs listed with FAIMER.ORG were classified according to the criteria above. Additionally, based on one program's development, using a case study approach, a description of a model strategy (offered currently to two B list countries) supporting equitable development of medical education programs in B list countries is presented.

Results

Of 20 listed doctoral programs (faimer.org) none were from B list countries. Of 123 listed masters programs, 21% were from B list countries. All doctoral programs included by FAIMER came from A list country medical schools. Most A list countries medical colleges and their host universities have an international division often led by a provost and dedicated staff participating and collaborations with projects not always medical education in orientation listed for identified target partner country medical schools (usually B list countries). Few programs identified on their websites formal medical education departments that published full descriptions of their medical education curriculum. One program published a focused scalable model for development of sustainable medical education capacity within the target country medical schools.

Conclusion

Global health depends on education and where coherently applied has led to sustainable improvements in population health and medical care

(https://en.m.wikipedia.org/wiki/Trendalyzer#/media/File:Gapminder_world.png). A developmental model of medical education is required that integrates acceptable standards, readily available to all countries. Online programs currently have the capacity to employ rapid growth models for sustainable medical education program development within target institutions. Case descriptions reveal novel and equitable approaches to achievable models of scale.

D1093

COMMUNITY ORIENTED PROJECTS IN MEDICAL CURRICULUM - EXPERIENCE FROM BRUNEI DARUSSALAM

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Aims

In Universiti Brunei Darussalam (UBD), 3rd year medical students have an opportunity to explore and work in a team to transform their theory into practice in their final Special Study Module III (SSM3). SSM3 is a community student-oriented project to develop their leadership as well as entrepreneurial skills. It has been initiated since 2012 until now.

Aims:

The aim of this project is to introduce `Community Oriented Medical Education` (COME) by providing opportunities to students in identifying and analyzing health related issues and factors responsible in communities. The 5 Objectives set are:

- To identify health related issues associated with various social and non-biological determinants of health.
- To be able to analyze health status or a health related problem in a community.
- To plan a solution for the problems with the involvement of relevant community, government and/or non-governmental agencies
- To demonstrate leadership, teamwork and management skills
- To develop community oriented approach to healthy living and preventive medicine

Methods

During a 6 week period on the 5th semester, four cohorts of Year 3 medical students have identified 20 community projects ranges from enhancing healthy life-style, environmental pollution/hazards, health awareness programme to the community as well as setting up of support group. On average 3-4 students in one group implemented a project with consultation and full involvement of the community and its leaders. Students gained an insight into the health needs of the communities and will work together with the experts in a particular field to do some form of interventions and took into consideration the importance of cultural needs. This project included both health needs assessment and cultural immersion. Student made visits with Primary health care professionals and introduced their projects either to schools, villagers or university students. Projects are mostly conducted in Malay as the majority of the participants conversed well in Malay.

Results

As a result of this projects, students took the leadership role and empowered themselves to work together with the community / health care professionals. Pilot study in 2015 conducted by Parveen et al have shown this to be true. Ongoing study need to be conducted to know the impact of this project to the community (either short or long term impact). Assessment will be done at the end of 6 weeks and most students achieved the objectives set.

Conclusion

Health intervention via the community has given the students empowerment and enhance their leadership skills. Medical students will become a holistic healthcare practitioners in the future too.

CONTINUING MEDICAL EDUCATION: AN EXPLORATIVE METHOD IN TEACHING CLINICAL EMPATHY TO POST-GRADUATE YEAR 1 RESIDENTS

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Aims

Clinical empathy is a key determinant of quality in medical care. Studies suggest a deterioration of medical students' and residents' self-perceived empathy during their clinical training. We have chosen an explorative method in teaching empathy to post-graduate year1 (PGY1) doctors, in the form of a video.

Methods

In an in-patient setting, PGY1s were given a self-assessment survey to fill (JSPE - Jefferson Scale of Physician Empathy) whilst their patients were asked to fill the JSPPPE - Jefferson Scale of Patient Perceived Physician Empathy at the end of the consultation. Half of the PGY1s were randomly selected to view a teaching video and to complete a qualitative reflective feedback form. Six weeks later, both JSPE and JSPPPE surveys were administered to all PGY1s and their patients to obtain post-intervention scores.

Results

PGY1s (n=21) were randomly assigned to 2 groups: control (n=10), and intervention with video training (n=11). The baseline JSPE score was similar in both groups, with most PGY1s agreeing that empathy and attentiveness to patient's experiences were important elements of good patient care. They disagreed that a sense of humour contributed to better patient outcome and a majority (57.1%) believed they displayed empathy in interactions with patients, with 95.2% of patients agreeing that these doctors displayed empathy in their interaction. Of the PGY1s (n=6) who felt they did not display empathy, all their patients disagreed and 50% of these patients strongly felt these doctors were empathic. During the second JSPE, where all PGY1s had completed 2 months of housemanship, all of them agreed more strongly on the importance of empathy. Those in control group "strongly agreed" (mean score of 2.17 from 7-point Likert Scale) that they were empathic doctors while those in intervention group "agreed" (score of 3.6; p<0.05). PGY1s in the intervention group rated themselves less empathic in comparison to the control group; paradoxically, patients rated them higher than PGY1s in the control group.7 PGY1s in their reflective feedback described empathic encounters with patients and their families; they identified situations where they were not as empathic as they would have liked, and proposed clear strategies for improvement. All respondents highlighted the importance of empathic interactions with peers and colleagues too, especially in a high workload, stressful and time-constrained environment.

Conclusion

There is a heightened awareness about the doctor-patient relationship in the PGY1s who viewed the video. Stimulating students' and residents' connectedness to patients, families and co-workers throughout their clinical training is an important aspect of medical education. Using a video to 'teach' empathy and encouraging regular reflection on practice is effective in raising awareness for clinical empathy in the workplace.

The practical implication of this study is that the teaching of empathy is not only desirable but necessary in sustaining empathic care throughout the clinical years of training and residency. Co-workers and clinical tutors have to closely monitor the hidden curriculum whilst enacting a curriculum change in order to incorporate the teaching of empathy to medical students and residents.

D1095

EVALUATING DIFFERENCES IN ENGLISH PHRASING AND TERMINOLOGY IN PEER-REVIEWED MEDICAL JOURNALS IN THE FIELD OF PEDIATRIC ONCOLOGY: A 10 COUNTRY COMPARATIVE STUDY

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Aims

Understand the differences between native and non-native speakers of English, with respect to texts published in peer reviewed journals in the field of pediatric oncology.

Methods

In order to ensure thematic homogeneity, we limited our search to the two leading journals representative of this field: 1) Pediatric Blood & Cancer, and 2) Pediatric Hematology Oncology. Thus, data was obtained from Pubmed using the following search criteria: "Pediatr Blood Cancer"[Journal] OR "Pediatr Hematol Oncol AND hasabstract[text]". This search yielded 5,907 abstracts, representing work published by authors in [123] countries, from 1986 - 2015.

Data processing and model generation was conducted using Rapidminer Studio. Statistical analyses were conducted using SPSS 23. Rapidminer was used to identify and extract country information based on the stated affiliation of the first author. We assigned four countries, the United States, UK, Canada, and Australia, to be representative of the "native speakers", with Japan selected as the negative control.

All abstracts were processed in order to extract the terms and phrases most relevant for a) identification of each individual abstract and b) differentiation between groups or sets of abstracts. This included the removal of all terms and phrases appearing in more than 20% of all abstracts as well as those appearing in less than 2%.

A classification model (support vector machine) was trained according to the criteria described above. Default settings were used. This model was then applied to all other countries with more than 40 abstracts (n=27). This process generated a "confidence" metric indicative of the probability that an abstract was written by a native speaker, along with a list of key terms and phrases that differentiate texts written by native speakers. In SPSS, 1-way ANOVA and T-Test analyses were conducted at the 95% significance level, to assess the inter-country differences with respect to this metric.

Results

Accuracy, precision, and recall of the classification model were 93.3%, 93.7, and 99.4%, respectively. We found significant differences between countries with respect to the confidence metric generated for each abstract. As expected, the native speaking countries scored significantly higher than all other countries, with the Netherlands, Denmark, Israel, India, and Sweden forming a close second tier. East Asian countries generally scored lower.

Conclusion

Our classification model was able to detect, with a high degree of reliability, subtle differences between the terms and phrasing used by native and non-native speakers in peer reviewed journals, in the field of pediatric oncology. This finding is especially remarkable given that the peer review and editing process is meant to ensure quality English. And our findings do not repudiate this notion. Instead, these findings show that even when the language used is technically correct, there may still be some phrasing or usage conventions present that impact the readability and, ultimately, the dissemination reach of the research achievements of scientists native to countries in which English is a foreign language. This research underscores the importance of including robust medical communication program within medical curricula, especially in those countries where English is not the first language

D1096

POSTERS AND EDUCATION IN A RESOURCE LIMITED ENVIRONMENT

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Aims

A small team visited Masanga Hospital in rural Sierra Leone to trial a variety of training courses and communications skills activities with a view to refining these activities and returning to Masanga to deliver further teaching for the local nurses and health care assistants around the theme of communications skills.

Posters are a key element of public health education in Sierra Leone. One of the challenges of working with staff trained locally is that their education is based on rote learning and it can be hard to apply learning to practical activities. Hence, designing posters seemed like an activity with much potential.

Methods

We provided a range of stimulus materials as well as basic art materials and encouraged the staff to work in pairs to design their own poster on a given theme. Materials included extracts from text books, material intended for patient use in the West, images and samples of posters on their given topics. We also took copies of all poster and presentation slides relating to previous research work undertaken in Masanga and the surrounding community. The intent was to provide an activity where they had to work closely with a colleague, to make decisions about appropriate content in the context of a target audience, and then to implement their design.

We wanted to see if this was an activity that interested the participants. We also wanted to see which of the materials seemed most used by the participants; this will inform decisions about what materials to take for future projects.

Results

The participants engaged enthusiastically although working far outside their usual didactic 'educational comfort zone'. However, it was clear that they were still very focussed on finding 'the right answer' rather than reinterpreting the materials we had provided. It is notable that the 'winning' poster by popular vote was essentially a copy of a poster provided as part of the relevant stimulus pack.

Conclusion

Once it is safe to revisit the area, it is likely that we will modify and use this activity in the future when running further training courses in Masanga. More structure to the activity - perhaps including some formal teaching and discussion of posters already in use around the hospital in the early stage of the activity as well as taking the opportunity to discuss the concept of plagiarism might, ironically, help individuals to move away from their assumption that simple copying is the best approach to acquiring and sharing knowledge.

HAND HYGIENE IN A RESOURCE LIMITED CLINICAL ENVIRONMENT

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Aims

The aim of this project is to introduce principles of effective hand hygiene in a resource limited clinical environment. The project was carried out at Masanga Hospital in Sierra Leone, a country that suffered 17 years of civil war. With the war ending in 2005, Sierra Leone awoke as a nation where much of its infrastructure had been disrupted. The hospital in Masanga is shortly to acquire a chlorinated system for hand hygiene purposes. Our intervention is an attempt to push forth a basic means of infection control.

Methods

Interactive small group teaching sessions were run in order to educate the trainee nurses and nursing aids. The lesson was designed to deliver learning in a multimodal manner, described in Fleming's VARK model although the focus was on visual and kinaesthetic modes of learning. The formats used to approach teaching include; traditional teaching methods, the use of agar plates to demonstrate the growth of microorganisms, the use of UV fluorescent hand gel and video media to show the transmission routes.

Results

The students gained an understanding of both the technique of proper hand hygiene and its importance without reliance on rote learning. The focus on practical activities gave a clear rationale for the role of hand washing and its clinical significance.

Conclusion

The outcomes of this project should improve handwashing compliance in Masanga Hospital. The education provided has a view to reducing the transmission of nosocomial infections, in turn, improving patient care. Once it is safe to return to Masanga, auditing hand hygiene and re-education may be necessary for a sustained benefit. It is also intended that local staff will be trained to deliver this module so that monitoring and hygiene control will become an ongoing, local responsibility.

YONG LOO LIN SCHOOL OF MEDICINE STUDENTS' PERCEPTIONS ON SIMULATION-BASED TEACHING IN THE PHASE IV OBSTETRICS & GYNAECOLOGY (O&G) POSTING.

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Aims

In the Phase IV curriculum, medical students are required to complete a 6 week O&G posting. For students who are posted to National University Hospital, they are required to attend a simulation-based teaching session on Obstetrics Emergency Simulation Training at the Centre for Healthcare Simulation. Students undergo 2 scenarios during this session and the learning objectives are:

1. Recognition and management of postpartum haemorrhage (PPH) and eclampsia.
2. Communication skills within healthcare team and breaking bad news.
3. Usage and dosage of drugs for treatment of PPH and eclampsia.

One main reason for teaching these scenarios is because medical students rarely have the opportunity to encounter such cases and yet it is important to learn about them. The faculty introduced this simulation-based teaching session to augment their learning.

Methods

A high fidelity birthing simulator was used for these sessions and a blood clot moulage was created using raw materials to simulate the haemorrhaging. In each session, there are 8 students participating in the simulation exercise. At the end of each scenario, they are debriefed by a tutor who reinforced the learning objectives. The duration for the session is 1 hour. At the end of the session, the students were surveyed. The survey comprises of 6 questions using a 4-point Likert scale (from strongly agree to strongly disagree). The students were surveyed on realism of the simulator and moulage, confidence level in managing emergency obstetrics conditions and the effectiveness of simulation as a teaching tool in augmenting their learning where real patients are in shortage. A total of 56 students participated in these sessions and the response rate was 100%.

Results

98.2% of the students felt more confident in managing a patient with PPH whereas 96.4% were more confident in managing a convulsing obstetric patient. 98.2% of the students agreed or strongly agreed that the simulator and moulage is realistic in portraying the conditions set out by the learning objective. All students agreed or strongly agreed that simulation is useful in augmenting their learning in O&G. 100% agreed or strongly agreed that simulation is a useful teaching tool which can be used to fill in teaching gaps in the posting which may be limited by availability of real patients. 100% felt that the simulation-based teaching session is essential in their training during the O&G posting. The 2 most commonly received qualitative feedback were:

1. More simulation scenarios
2. Cover topics such as shoulder dystocia or breech delivery

Conclusion

The incorporation of simulation-based teaching sessions in the Phase IV O&G is beneficial and efficient. Students are able to learn and gain confidence in a realistic yet safe environment. Simulation is also a useful teaching tool in filling the teaching gaps which may be limited by the availability of real patients, especially in O&G where more patients nowadays would prefer privacy during their delivery.

D1099

THE CADENCE PROGRAMME - A PEER LED TEACHING INITIATIVE FOR THE MRCP PACES ACHIEVES A SIGNIFICANTLY BETTER PASS RATE

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Aims

The Membership of the Royal Colleges of Physicians - Practical Assessment of Clinical Examination Skills (MRCP PACES) is one of the most demanding post-graduate clinical examinations for trainees in Internal Medicine. This exam requires requiring trainees to interview, counsel, do detailed physical examination and discuss the management of 8 consecutive patients in 2 hours. It requires systematic and detailed preparation with a global pass rate of 46%.

A peer led teaching initiative called the CADENCE Programme was introduced in our institution in Singapore since the October 2012 diet. In the last 3 years we have shown significant improvements in pass rate when compared to the national pass rate in the corresponding subsequent diets.

Methods

Candidates attempting the MRCP PACEs were organized into small groups of 3-4 candidates and taught by 2 peer teachers who had recently passed the MRCP PACESs weekly for 12 weeks prior to the exam.

Candidates were taught 1) physical examination techniques through bedside teaching methods 2) history taking and communications skills and 3) short clinical consult skills. All teaching was done in a small group setting with continuous feedback given to each candidate. All residents also participated in teaching workshops in topics such as bedside teaching and giving effecting feedback organized separately by the Academic Medicine Education Institute (AM.EI).

Resident teachers participate in mentoring juniors based on the "pay-it-forward" philosophy. Each candidate, on successful passing of the MRCP PACES for their respective diet would then participate in the programme as a peer teacher for a subsequent diet.

Institution pass rate data for the MRCP PACES was collected for prospectively. National pass rate data for Singapore was obtained from MRCP (UK). A Mann U Whitney Test was performed.

Results
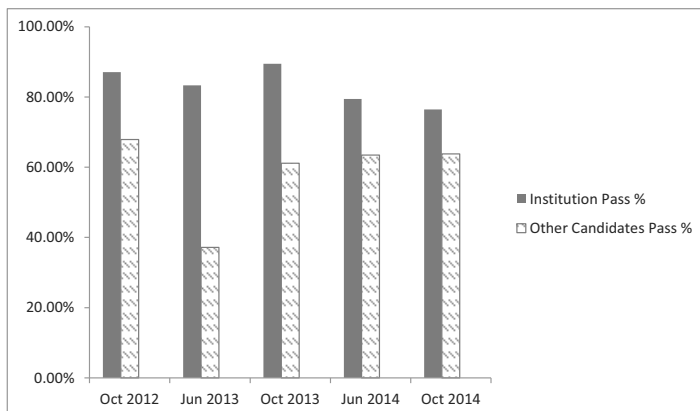
Fig 1: Percentage pass rate comparing our pass percentage in our institution pass percentage vs pass percentage of all other candidates in Singapore taking the same diet

Diet	Own Institution Candidates			Other Candidates		
	Pass (n)	Attempted (n)	%	Pass (n)	Attempted (n)	%
Oct 2012	27	31	87%	19	28	67%
Jun 2013	20	24	83%	13	35	37%
Oct 2013	17	19	89%	33	54	61%
Jun 2014	27	34	79%	26	41	63%
Oct 2014	13	17	76%	37	58	63%

Mann U Whitney: Z-score: 2.5067. p-value: 0.01208

Table 1: Numbers of candidates and pass percentage from own institution candidates vs other candidates

Since the implementation of the CADENCE programme for 5 diets from Oct 2012 to Oct 2014, our institution pass rate for the MRCP PACES was consistently higher than the national percentage pass rate (Fig 1, Table 1). Our institution pass rate ranged from 76% to 89%, compared with pass rate for candidates not from our institution ranging from 37% to 67%.

Conclusion

The Cadence Programme, a peer led teaching initiative was effective in achieving a significantly better pass rate percentage compared to national percentage pass rate for the corresponding diets. Residents can be effective teachers and play an important role in the education of peers.

D1100

CHALLENGES AND EXPERIENCES OF A STUDENT-LED RESEARCH SOCIETY - A DESCRIPTIVE REPORT OF THE WONG HOCK BOON SOCIETY

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Aims

The ability to conduct in-depth inquiry and participate in scientific discourse has emerged as a valuable competency for the medical student of the 21st century. Whilst traditionally the province of graduate medical schools, typically located in the United States, programmes that aim to foster student scholarly endeavour (sometimes known as "scholarly concentration" programmes) are beginning to gain more widespread acceptance. The Wong Hock Boon Society, a wholly student-directed endeavor, was established within the Yong Loo Lin School of Medicine in 2010 to encourage and support student research activity. Now in its 5th year, there may be enough depth of experience to share with other similar programmes.

Methods

2 successive leaders of the society participated in discussions. A timeline and summary of all of the significant events of Wong Hock Boon Society over the past 5 years was prepared, then organized into discrete phases of development. Events held to be key or sentinel points in the evolution of the society were identified, with discussion about the strengths of these, any unique features, and their individual learning points obtained, if any. Specific challenges were highlighted and discussed, with experiences of solutions elaborated on and summarized.

Results

At the end of AY2014/2015, there were 204 members of the society, representing 13.8% of the entire student population. $19,714.07 of funding support was disbursed in FY2014, an increase of 27.0% from $15,520.44 in FY2013. This suggests that the society has gained sufficient relevance to the student population.

The development of the Society can be divided into 3 stages - formation and exploration, identity/direction creation and collaborative expansion. Key points in each stage are discussed and we show the evolution of events and longitudinal programmes over the 3 stages. A few particular areas of experience are elaborated upon - direction and initiative-setting, student-faculty collaboration, and leadership transition.

Conclusion

The construction of a student-led body can be a structured process. Rapid change and evolution can be beneficial to the progress of the organization and inspire more initiative-taking. A close relationship with the faculty, while occasionally challenging, is necessary and generally of great help. Student leaders may benefit from learning effective strategies to manage yearly leadership transitions, which are also common in other student bodies. Upcoming research will focus on objective evaluation of outcomes in the student population.

ENGAGEMENT WITH ONLINE LEARNING: EXPLORING THE EFFECTS OF COURSE DESIGN AND STUDENT MOTIVATION

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Aims

Online learning platforms are an increasingly popular form of educational delivery. However, little is known about the factors that influence students' receptiveness to these new approaches. The kuraCloud™ online learning platform was incorporated into three undergraduate medical courses at Otago University. It was used to supplement lectures in one course and as a means of delivering lecture snippets and activities in two other papers which used a flipped classroom design. This presentation reports on students' attitudes towards the e-Learning platform kuraCloud™ in flipped and traditional classrooms.

Methods

In a mixed methodology students completed written quantitative and qualitative surveys. Subsequent focus groups were used to further explore themes generated from the surveys.

Results

Student evaluations and focus groups indicate a high degree of openness to using kuraCloud™ in two of the three courses: as a supplement to lectures in a large pathology course, and in a flipped-classroom, small-group course which ran parallel to obstetrics and gynaecology clinical placements. Students in the third course (pathology with a flipped classroom design) indicated a strong dislike of the way kuraCloud™ was implemented.

Course evaluations suggest that where students' primary focus was examinations rather than the clinical application of their knowledge, students preferred kuraCloud™ as a supplementary revision tool preferred traditional lectures as a means of learning and organising new content. However, when students learned using kuraCloud™ embedded within their clinical placements they were more receptive to using kuraCloud™ for tasks which engaged them in higher-level thinking.

Conclusion

Whilst eLearning platforms may be a promising means of engaging students in constructing knowledge in medical education, students' perception of the role of eLearning may be shaped by motivational drivers such as preparing for examinations or learning for clinical work. When removed from a clinical context, although the slide- and problem-based interactive activities were still seen as valuable, students preferred to attempt these tasks only after receiving content through lectures.

D1102

RELOT - RESIDENCY-LED OBSTETRICS AND GYNAECOLOGY TEACHING

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Aims

To improve learning of house officers with the introduction of residency led teaching.

Methods

The Residency-Led Obstetrics and Gynecology teaching (ReLOT) workshop was started by Singhealth Obstetrics and Gynaecology (O&G) residents in 2015. This was a residency-led initiative aimed at improving the knowledge and skills of house officers rotating through their posting in O&G. The teaching consisted of a movie-themed IT presentation. Case scenarios of commonly encountered O&G emergencies were discussed including severe pre-eclampsia, post-partum haemorrhage and ectopic pregnancy. Anonymous feedback was collected from the participants at the end of the session.

Results

Four residents (2 second year residents, 1 fourth year resident and 1 senior resident) were involved in ReLOT under the guidance of a faculty. The workshop was developed by the fourth year resident and senior resident. Subsequent "near peer" teaching sessions were conducted by the two second year residents. A total of 3 sessions were conducted over a 6 month period. The overall feedback from participants was positive. Out of the 73 participants, 98.6% of participants found the session useful and the teaching session of high quality. 98.6% will recommend others to attend this workshop in the future. Comments from participants include "excellent", "very useful presentation" and "common practical tips useful". 93.1% of participants felt that the use of digital media helped to enhance teaching. All resident tutors felt that the workshop was beneficial to their own learning. The residents also suggested that small group teaching could be conducted with objective structured clinical examination (OSCE) -style case scenarios in future workshops.

Conclusion

The ReLOT workshop for house officers was successful in engaging junior doctors to learn about practical and useful clinical management in O&G. The introduction of residency-led teaching can facilitate sustainable institutional memory. Future comparison studies can be done on the efficacy of different teaching methods (eg. conventional presentation versus small-group OSCE style).

D1103

DEMYSTIFYING PATHOLOGY - JOURNEY OF A SPECIMEN FROM THE OPERATING THEATRE TO THE PATHOLOGY LABORATORY, A VIDEO

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Aims

A student led project under the guidance of a pathologist aimed at developing a video module for medical undergraduates to understand the role of pathology in patient management and diagnosis.

Methods

A small group of medical undergraduate Year 2 students of LKCSoM developed a video detailing the journey of a surgical specimen from the operating theatre to the pathology laboratory, culminating in the microscopic diagnosis by the pathologist. The work processes and their significance in the diagnosis was stressed. The video screening is to be followed by a discussion and feedback.

Results

Pathology plays an important role in diagnosis and management of patients. Many patients undergo a surgical biopsy during the clinical work up. Tissue diagnosis or histopathology is the next step after the surgical biopsy. This is considered a gold standard and an accurate diagnosis is vital particularly in tumour pathology to initiate appropriate treatment.

However, traditional pathology undergraduate curriculum focuses mainly on the microscopic appearances and pathophysiology. What happens in a pathology laboratory is rarely understood. However, understanding what happens to a surgical specimen in the pathology laboratory and how it is transformed to slides, ready for diagnosis under the microscope by the pathologist is important. It is important every step of the way from the accurate filling of the form including relevant clinical details, the role of fixatives and the time required for processing. Knowledge of these processes will lead to decrease in errors in these work processes. The knowledge that a poorly fixed specimen may be unsuitable for histopathological diagnosis or an improperly filled request form could result in errors is an important step towards better patient care.

This video details the steps from the clinical history, input from the surgeon, how the specimen arrives to the laboratory from the OT, the importance of barcoding and how the pathologist examines macroscopically and finally gives a microscopic diagnosis. This is relayed back to the surgeon, who in turn discusses with the patient and institutes the right treatment.

This video aims to give the viewers a first hand account of a pathology laboratory. The students involved in this project appreciated this opportunity and this video becomes a surrogate but equally positive experience for the rest of the class watching it.

A discussion following the video helps to strengthen the important concepts. A feedback was obtained.

Conclusion

Undergraduate medical students rarely have a chance to see the workings of a pathology laboratory. This collaborative video module helps to demystify the work processes in pathology. This also eliminates the logistics nightmare of leading students through a busy diagnostic laboratory. They can relate to the practical aspects like request form filling and see the quality checks in place. More importantly it stresses the clinico-pathological correlation which forms the foundation of good patient management. Although developed for undergraduate students, this video would be suitable for other junior doctors as well.

METHOD AND IMPLEMENTATION OF EARLY CLINICAL PRACTICE IN MEDICAL EDUCATION

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Aims

The system of clinical medical education in mainland China is divided into three stages, the basic medicine educate, the clinical medicine educate and hospital internship. The problem is that the students do not go to the hospital and take practice in the first stage, the lack of the necessary clinical practice training. To solve this problem that the medical students without clinical practice in the first stage and to explore the early clinical practice educate mode can be implemented in current curriculum system.

Methods

"Early Clinical Practice" is run since 2009. It provides temporary opportunities in clinical practice for students who study in the first stage. The schedule of course is 3 years, 6 semesters continuous, six hours per semester. The content of course includes the understanding of the China's medical and health care system, operation mode in hospital, the thinking mode of clinical diagnosis and treatment, the concept of sterile, health management, life education, hospice care, patient service and first aid. The evaluation of the end of the course includes students self-assessment, team work assessment, teacher assessment and summary. The contents of the assessment include the participation of the students, the performance of the team and the summary in the practice.

Results

Through clinical practice, the students make more care and respect for human life, they learn how to make effective communication with others, and improve their interest in learning medicine. They think about what are better mode of medical care operation and the relationship among the doctors and patients.

Conclusion

In the early medical education period, make the early practice in hospital for students who we can affect their attitude towards human life, formation of professional values and improve the communication skills.

DRIVING THE OUTCOME - NICU- INTEGRATED TEACHING AND LEARNING IN AN UNDERGRADUATE PAEDIATRIC CURRICULUM

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Aims

The objective for the neonatal posting is to introduce medical students to the normal physiological adaptations involved in the transition from fetus to newborn. Their current exposure to ward activities seems not to provide sufficient time for studying and understanding clinical cases. They usually assess infants admitted with simple discharge needs e.g. jaundice follow up, antibiotics or feeding problems. An educational program with an integrated approach may enhance the effectiveness of their posting. This study sought to evaluate how an integrated regular visit on the neonatal intensive care unit (NICU) may help semester 8 medical students to achieve their learning outcomes during a neonatal posting.

Our aims were i) to increase the accountability of students through participation in a NICU teaching round and thereby ii) to develop a coherent entity of teaching, training, and assessment sequence during their neonatal posting iii) evaluation of an outcome-based learning process after introduction of NICU visit.

Methods

After a short briefing, semester 8 students were divided into two groups of three and separately participating in a structured NICU round for 30-40 minutes. A selection of premature or ill neonates were presented for observation and discussion. A debriefing session was held for students to discuss their observations, feeling and experience. Based on the SMART goals (Specific, Measurable, Attainable, Relevant and Time bound), an evaluation model framework of four domains was used to develop a questionnaire on four aspects that include self-perception (eight items), learning and reflection (four items), professional behavior (four items), social awareness (3 items).

Results

A total of 38 students out of 120 responded to the questionnaire. Our study showed a significant value of NICU exposure and problem guidance to ill neonates for the students. The results revealed that students wanted an outcome-based learning experience beyond the limited ward-based experience. Students also expressed their need for contextual authenticity to achieve a positive learning experience.

Conclusion

The modified learning model with student access to NICU patients offered them more insight into diagnosis and acute management of ill newborns. It resulted in improved preparedness and reflection through higher learning motivation during their entire neonatal posting. By applying SMART model for evaluation students found that the NICU visit is an educational event that has helped them to achieve an expected level of learning outcomes for their neonatal training.

RESIDENT AND FACULTY PERSPECTIVE ON THE REMEDIATION PROCESS FOR SINGHEALTH ANAESTHESIOLOGY PROGRAM (SHARP) RESIDENTS

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Aims

Prior to the commencement of the Residency program in Singapore, the anaesthesiology specialist training system did not have a robust system that allowed identification of struggling trainees or included a remediation process. The residency system, with its emphasis on competency outcomes, multiple evaluations and assessors potentially allows the early identification of residents with learning deficits and/or undesirable traits, and remediation measures to be instituted as necessary through a formalized process. The aim of this study was to review resident and faculty perception of the current remediation processes in place within SHARP, highlight barriers to remediation, and suggest potential improvements.

Methods

The study was spearheaded by a taskforce that comprised faculty and residents. Two separate surveys on remediation were conducted for faculty and residents via an online platform. The surveys sought to check on the level of awareness of the remediation policy, triggers for remediation and barriers to surfacing "problem" residents. The resident survey asked additional questions on the usefulness of 360° multisource feedback, confidentiality and support that should be provided during remediation. All faculty and residents in SHARP were invited to participate. Participation was entirely voluntary. The response rate for faculty and residents were 31.0% and 80.6% respectively. The results of this study were discussed at the annual residency retreat attended by core faculty and residents.

Results

Awareness regarding the remediation process was found to be poor with about 27.8% of faculty and 84.5% of residents being unaware of the remediation policy or the implications of remediation. 37.3% of residents had encountered residents whom they felt should undergo remediation but did not flag them up to the attention of the program. The main barriers to exposing such residents by faculty and residents included not wanting to be the bad guy, a lack of knowledge on how to do it and the perceived trouble that comes with being the identifier. The most important trigger for remediation was behavior/professional lapses. Other referral indications were signs of burnout, lack of knowledge and skills, and suspected drug abuse.

Residents used multisource feedback or spoke to the program directors to highlight "problem" residents. Faculty used online evaluation or discussed with other faculty/program directors. The caveat that allows multisource feedback to highlight "problem residents" is that faculty/residents must be matched to the resident, a process that does not necessarily happen.

The majority of the residents agreed that program director, associate program directors and program mentor should know of a resident's remediation. 57.9% of residents felt they would want in addition, a self-appointed mentor for support during the remediation process. Otherwise, confidentiality pertaining to a resident's remediation was appreciated.

Most faculty and residents agreed that remediation should be individualized and targeted towards specific deficiencies.

Conclusion

Remediation can be stressful for the resident involved. This study identified deficiencies of the current remediation workflow. Potential areas of improvement include an online form which would make it possible for easier identification of residents for remediation, and allowing residents undergoing remediation to self-appoint mentors for support.

D1107

USE OF A FACEBOOK GROUP IN ANATOMY EDUCATION: A PILOT STUDY

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Aims

Facebook (FB) is a popular social media site among university students. FB provides means of approaching students and engaging them in education in a relaxed atmosphere. It will also prepare the students to use social media for professional development and lifelong learning. This study intended to explore the use of a FB group in Human Anatomy education, in a setting where the curriculum is mainly teacher-centred and discipline-based.

Methods

A public group administered by the academic staff members of the department of Anatomy was created and other staff members and students were invited to join. Engagement of group members during the initial ten months was analyzed. Members' perceptions regarding the group were surveyed online.

Results

At the end of ten months, there were 406 members; 250 (61.6%) first and second year students who were going through the formal Anatomy teaching, 61 (15.0%) senior students, 30 (7.4%) staff members that include 12 members from departments other than Anatomy, 16 (3.9%) members from institutions of allied health sciences and 14 (3.4%) medical officers. There were 203 posts, 1058 comments and 3154 likes. Post reaction was 100% and 163 (80.3%) posts were commented, with an average of 6.5 comments and 15.5 likes for a post. Self-assessment questions as MCQs (85), queries regarding doubtful facts in anatomy (23), greeting and wishes (21) and clinical case discussions based on images (20) are the most common categories of posts. For the posts by staff members, average number of comments (7.7) and likes (23.2) were higher than those for the posts by students (4.3 and 12.5 respectively). Members' engagement was highest during the weekends and the peak activity was observed around 4 pm for posts and around 12 noon and 4pm for comments. Most of the students (25) expressed that they use the group to improve the understanding of academic matters by viewing posts and comments. Sixteen students visit the group because it makes their learning interesting. Other main reasons for engagement in the group include, to share the information with colleagues (11) and to do a self-assessment (9). Only a few used the group to communicate with colleagues (4) or teachers (4) regarding academic matters. The most sought after categories of posts include the self-assessment questions as MCQs (16), clinical discussions based on images (13) and explanatory notes and diagrams in Anatomy (11).

Conclusion

This pilot project reveals the capability of FB to engage students in educational activities beyond the boundaries of classrooms and timetables. FB can also be used as a supplementary method in vertical and horizontal integration and clinical orientation of the basic sciences by engaging senior students, and teachers from different disciplines including clinical teachers. Possibility of using FB as a self-assessment tool is also emphasized. However the students' reliance on teachers for education and passive learning is evident even within the group. This highlights the need to enhance active, self-directed learning and peer assisted learning among students, for which Facebook can be utilised as a convenient setting.

THE PEDIATRICS MINI-CEX PROJECT AT KUWAIT UNIVERSITY PHASE ONE: THE DEVELOPMENT AND INITIAL IMPLEMENTATION OF THE MINI-CEX TO ASSESS THE CLINICAL COMPETENCIES IN PEDIATRIC UNDERGRADUATE MEDICAL STUDENTS

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Aims

The mini- Clinical Evaluation Exercise (mini-CEX) is a reliable method for clinical competencies assessment. Our aim was to implement this method in Pediatrics undergraduate education in Kuwait University.

Methods

The mini-CEX project at the Department of Pediatrics consists of two phases. In phase one, the tool is being reviewed by an expert panel to assess its feasibility for use for the Pediatrics Undergraduate curriculum. Phase two is a future phase in which the mini-CEX will be assessed in regards to its validity and reliability as an assessment tool.

Results

The tool was thoroughly reviewed by an expert panel and appropriate changes were made and introduced to Pediatrics curriculum in 2013-2014. Thirty-two students were assessed by 32 assessors. A total of 217 assessments were made with an average of 6.8 assessments per student. Majority were in-patient (88.3%) with children aged 5.1-12.0 years (46.7%). Physical examination was the most assessed competency (71.7%), and counselling was the least (7.1%). The means for the scores of all the competencies were satisfactory. Almost quarter of the assessments didn't include a feedback from the assessors. The mean assessment time was 17.09 ± 5.22 minutes. The mean assessors' satisfaction (out of 9) was 7.79 ± 1.12 and the mean for students' satisfaction was 7.82 ± 1.29.

Conclusion

The modified Pediatrics mini-CEX is feasible especially in the in-patient setting. This cannot be generalized to other settings. The students were allowed to participate in choosing the encounters. This may have limited the encounters to patients of certain age and less challenging focuses. In our mini-CEX assessment we achieved the goal to assess the students' performance confronting with patients of different complexities under various circumstances. It also offered an interaction between the students and the evaluators, and an immediate feedback was given to the students which help them to plan future improvement strategies with each other.

The Pediatrics Mini-CEX seems to be a feasible tool for use in Pediatrics module in Kuwait University. We should stress to include the feedback in all assessments as this will add strength to the tool. Reliability and validity of this tool should be studied in the future.

ATTITUDES TOWARDS RESEARCH AMONGST ANAESTHESIA FACULTY

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Aims

The aim of this anonymous survey was to illicit anaesthesia clinician's unreserved responses regarding their feelings towards research in general.

Methods

After institutional and Society approval we approached all anaesthesia clinicians who are members of the Singapore society of anaesthetists via email. They were invited to anonymously participate in a survey (using Survey monkey TM). There were ten questions asked regarding wide ranging topics related to attitudes towards research. The questions were internally validated by a trial on three participants prior to sending out and amended accordingly.

Results

There were 90 respondents (which was a 95% response rate). The participants were a mix of private and public hospital practicing clinicians. 90% stated that they had participated in research, with most of them having done so as a post graduate trainee (44%). Only 21% of the consultants had been involved in research. 10% stated they had participated as an undergraduate student. Clinical research was the most predominant form of research carried out (80%), followed by 15% carrying out multiple forms of research, 4% educational research and 1% laboratory research. 62% stated they were interested in doing research, but 73% felt that research should not be mandatory for graduation from training or promotions. There was an even divide (50%) about general feeling that 'research is only for a few people' vs 'everybody should contribute to research'. However, most respondents (95%) felt that interested people should get 'protected time' for research. 79% felt that medical school curriculum taught research adequately and 86% felt that research ethics should be taught before graduation. Only half (50%) felt that enough research was being carried out at their institution.

Conclusion

This survey aims at greater understanding of anaesthesia clinicians towards research. Through this study we have elicited a response that leads us to believe that greater motivation and training is required in order to inspire more clinicians to contribute towards research and that clinically relevant research is more popular. In order for a research culture to thrive, provisions and mentorship need to be in place from an early stage.

D1110

COMPARISON OF STUDENTS' CHARACTERISTICS, SELF-MOTIVATION, AND SELF-DIRECTED LEARNING READINESS BETWEEN THE FIRST-YEAR AND CLINICAL YEAR STUDENTS AT MARANATHA CHRISTIAN UNIVERSITY: MIXED METHOD STUDY

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Aims

Self-Directed Learning (SDL) is an important skill that should be achieved by medical students. Competence-based curriculum with problem-based learning (PBL) as one of its learning approach, supported by high self-motivation of the students will enhance their readiness for SDL. The research is carried out to identify the level of self-motivation and SDL readiness in medical students as well as identify factors affecting SDL.

Methods

This research design is a mixed method study. Samples were first-year and clinical year medical students. A quantitative research was conducted by distributing self-motivation (MSLQ) and SDL questionnaire (SDLRS). A total sampling was applied to select the respondents. Furthermore, focus group discussion (FGD) on students and tutors/preceptors was carried out. Informants were chosen by purposive sampling method.

Results

The quantitative research revealed that most of medical students had a good level of self-motivation but a low level of SDL readiness. Nevertheless, the mean scores of SDL readiness in both groups showed no significant differences. In addition, the qualitative research identified four major factors affecting the SDL readiness, which were the students' characteristics, learning process, the role of tutors/preceptors and supporting facilities for learning.

Conclusion

There was no significant difference between SDL readiness of the first-year and clinical year medical students. Students' characteristics, learning process, the role of tutors/preceptors and learning resources were found to be the mayor factors influencing SDL readiness.

IS THERE A ROLE FOR THE USE OF AVIATION ASSESSMENT TOOLS IN SURGICAL EDUCATION? A PILOT STUDY.

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Aims

High level sensorimotor performance is needed in both surgical and aviation training. Yet there are currently no sensorimotor assessment tools in the area of microsurgical training and education. We tested the feasibility of adopting a computer-based aviation assessment tool to assess potential surgical trainees.

Methods

The validated Computerized Pilot Aptitude and Screening System (COMPASS) test, assessed six competencies (eye-hand-foot, eye-hand, spatial orientation, multitasking, memory and mathematics). This test was administered to 36 final year medical trainees and 24 ophthalmic residents. Outcomes included completion rate and competency scores as compared with that of age- and gender-matched candidate pilots (n=120). We further compared the outcomes of the ophthalmic residents to their scores taken during a microsurgical training workshop.

Results

All 36 medical trainees and 24 ophthalmic residents completed the COMPASS within the prescribed two hours. Compared with aviation trainees, medical trainees and ophthalmic residents scored significantly higher on cognitive competencies, yet lower on spatial orientation and eye-hand-foot coordination. The ophthalmic residents with higher scores on eye-hand-foot coordination scored higher on microsurgical skills.

Conclusion

Use of the COMPASS is feasible for the assessment of the medical trainees and ophthalmic residents. Scores from this group of medical participants were significantly lower on two out of six competencies. Positive relationship is found between ophthalmic residents' COMPASS score and their microsurgical skills. Future studies will examine validity and psychometrics properties of the COMPASS among the medical participants and its application in the preparation for a surgical career.

D1112

FLOOR MAPPING: A NOVEL METHOD OF INTEGRATING ANATOMICAL STRUCTURE WITH IMMUNOLOGICAL FUNCTION

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Aims

It is well known that students will vary in their preferred learning style and that older traditional methods of immunology teaching (such as didactic lectures) can fail to engage students, particularly those that are kinaesthetic learners. Anatomy forms the cornerstone of many medical degree programmes. However, anatomy is often taught in isolation from the processes, such as immunology, that occur within the structures that are under review. Immunology can also be a challenging subject for medical students; its complex, overlapping processes can make it difficult to conceptualise and apply clinically (1). Our aim was to design a teaching session that integrated structure and function yet appealed to a variety of learning styles.

Methods

We describe a novel integrated anatomy/immunology teaching method used in the Graduate Entry Medical course in Swansea, UK, where we linked the structure of the lymph node to its immunological function within the body. The floor of our clinical skills lab was converted into a large labelled diagram of a lymph node. Our year 1 students became the B and T cells and, with the aid of interactive white boards, we walked and talked through the processes that occur when an immune response is stimulated.

Results

Student feedback suggested that the session was extremely well received by the students. We reflected on the teaching session in terms of its stimulation of the different VARK learning styles namely visual, aural, read/write and kinaesthetic (2). We found that the session catered for students with a multimodal learning style and specifically included a kinaesthetic element. Whilst we are yet to assess the preferred learning styles of our own students, studies on medical students indicate they often exhibit multimodal learning (3,4) that becomes increasingly unimodal and kinaesthetic after they qualify (4). We will discuss this in relation to our curricular structure and general student profile.

Conclusion

Current trends in medical education are moving away from didactic lectures to more active methods of learning. The evaluation of this novel teaching method shows that not only can teaching of basic sciences such as immunology be integrated into anatomy sessions but also that the method of delivery can be engaging, multimodal and potentially stimulates active learning. In addition, the use of a cross-disciplinary teaching team is likely to further reinforce the student perception of the body and its processes as a single integrated entity.

D1113

CONCEPT PAPER: NEAR-PEER TEACHING OF PRE-CLINICAL STUDENTS BY CLINICAL STUDENTS THROUGH INTEGRATED CLINICAL CASES

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Aims

In this article, we share a near-peer teaching (NPT) programme initiated, led and run by students of the Yong Loo Lin School of Medicine, National University of Singapore. This programme aims to encourage mentees to integrate pre-clinical knowledge in preparation for clinical years, develop medical student mentors, and create an overall culture of mentorship and sharing amongst the medical students.

This program was conceptualised on the basis of evidence suggesting that NPT initiatives are well-received by students and generally felt to be useful in improving learning outcomes. The challenge pre-clinical students face in developing meaningful links between pre-clinical subject matter and their clinical relevance is well supported by literature. Personal experience facing these issues prompted three Phase 4 students to conceptualise and implement this programme we now describe.

Methods

Fifty-six Phase 3 students (mentors) were trained by the Centre for Medical Education and their Phase 4 seniors. Mentors conducted small-group NPT sessions for 226 Phase 2 students (mentees) over two days, using eighteen clinical cases integrating basic science and clinical medicine. A case-based learning format was chosen for the programme because of its potential to improve learning outcomes, create a collaborative learning environment, motivate students and develop learning skills.

These cases were developed by Phase 4 students and vetted by faculty. Each case revolves around a clinical scenario based on a patient's journey, with case history sequentially revealed as the storyline moves from symptoms to investigations, diagnosis and management. Questions are posed along the way; some questions reinforce basic pre-clinical concepts, others probe deeper understanding and critical thinking, while yet others introduce an element of clinical reasoning or even ethical considerations.

Results

A post-programme evaluation is being conducted on mentors and mentees via surveys and free-response feedback. Preliminary results are encouraging.

Most mentors agree the cases are able to link pre-clinical and clinical content, promote critical thinking rather than rote learning, and were of appropriate difficulty.

Majority of mentees agree the NPT sessions added to their pre-clinical learning and the official curriculum, helped connect pre-clinical and clinical content, and develop critical thinking skills. However, most felt the pacing of cases was too fast and that the cases were slightly challenging.

The programme was generally well-received and will be repeated in the coming academic year. Since NPT sessions spread throughout the academic year will allow more optimal relationship building and improve learning efficacy, this will be done for subsequent batches.

Regular feedback was provided for mentors throughout their training sessions to address their heterogeneity in clinical understanding and facilitation skills. Work on this front continues.

Conclusion

We have described a near-peer teaching programme using integrated clinical cases which we believe is beneficial for both the mentors and mentees. This could be adopted by other institutions to help bridge the gap between basic science and clinical medicine, and nurture a positive school culture.

D1114

DESCRIPTION, PERCEPTIONS AND ROLES OF CLINICIAN-EDUCATORS IN EMERGING GRADUATE MEDICAL EDUCATION SYSTEMS: A MULTI-NATIONAL SURVEY STUDY

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Aims

To describe clinician-educators (CEs) in emerging, competency-based graduate medical education (GME) systems and to characterize their perception of preparation, roles and rewards, and factors affecting job satisfaction and retention.

Methods

A cross-sectional survey was conducted June 2013 - June 2014 of all CEs, defined as program directors, associate program directors and core faculty, at all residency programs at institutions that have adopted competency-based GME and received accreditation by the Accreditation Council for Graduate Medical Education-International.

Results

274 of 359 eligible participants (76.3%) responded, from 10 hospitals, representing 47 individual residency programs across 17 specialties. CEs were predominantly married men aged 40's, employed at their current institution for 9.3 years (± 6.4 years). Approximately two-thirds felt their institutions offered moderate or extensive faculty development opportunities. CEs judged themselves competent or expert in teaching skills (91.5%), trainee assessment (82%) and mentoring (75%); less so in curriculum development (44%) and educational research skills (32%). Clinical productivity was perceived by the majority (62%) as the item most valued by their institutions, with little or no perceived value for teaching or educational efforts. Overall, 58.3% were satisfied or very satisfied with their roles, and 77% expected to remain in academic medicine at 5 years. A strong negative correlation was found between being a program or associate program director and likelihood of staying in academic medicine (aOR 0.42; 0.22 to 0.80).

Conclusion

In the GME systems studied, CEs, regardless of country or program, report working in environments that value clinical productivity over educational efforts. They feel competent and prepared for many aspects of their roles, have positive attitudes towards teaching, and report overall job satisfaction, with most likely to remain in academic medicine. As competency-based medical training advances internationally, the impact on and by CEs requires ongoing attention.

D1115

COMPARISON OF SYMPTOM BASED AND DISEASE BASED VERTICALLY INTEGRATED BLOCKS IN EARLY YEARS OF UNDERGRADUATE MEDICAL CURRICULUM

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Aims

At Alfaisal University, a spiral, organ system based integrated curriculum is adopted. It is divided into three successive phases, with myriad of teaching & learning strategies adopted including PBLs. Until recently, four-week head, neck and special senses (HNS) blocks were offered in both phase I (structure/function) and II (pathophysiology of disease) of the curriculum. Phase II block also had vertical integration with clinical sciences like otolaryngology and ophthalmology. Phase III consisted of related clinical rotations. In 2014, curriculum committee, due to academic and administrative reasons, merged phase I and II HNS blocks, to develop a single course at the end of phase I with integration of clinical sciences. In the present study, we compared performance of disease-based model (DBM) versus symptom-based model (SBM) of vertically integrated HNS block in terms of students' perception and satisfaction. Feedback of the faculty is also included on integration of basic sciences with clinical concepts at this point in the curriculum.

Methods

A multidisciplinary team developed a new HNS block integrating otolaryngology and ophthalmology diseases with structure and function of head and neck and special senses. The vertically integrated HNS block was offered for the first time in 2014 towards the end of second year. At the end of the block feedback was obtained from students and faculty, through a structured questionnaire. In 2015, based on feedback of the faculty and students, this vertically integrated block was restructured. In developing this revised block various otolaryngology and ophthalmology related clinical presentations (e.g., nasal discharge/nasal bleeding) were identified and were integrated with basic sciences. This approach was considered to be more compatible with clinical vignette based active learning strategies like PBLs.

Results

This study showed 1) Seventy eight percent students in DBM and 53% in SBM were clear about the learning objectives from the beginning of the block 2) Only 35% liked the idea of vertical integration at this level in DBM, while the acceptance was better in the SBM with an agreement of 58% 3) 76% in the DBM and 66% in SBM agreed that weekly themes and schedule were matching with the learning objectives 4) Students from SBM perceived greater confidence (50%) in achieving clinical objectives than DBM students (37%) 5) students were not happy with duration of self-study in both formats as 32% and 40% from DBM and SBM respectively agreed that there was adequate time for self-learning. Eighty-nine percent of the faculty members thought that vertical integration provided context to understand preclinical concepts, while 66% agreed that this vertical integration will improve performance in clinical years.

Conclusion

In the early years of undergraduate medical curriculum, although, learning objectives of a symptom based block are more difficult to apprehend in the beginning, a symptom based vertical integration of HNS block is more acceptable to the students and they feel more satisfied in achieving clinical objectives towards the end of block.

RESIDENCY CORE EDUCATION PROGRAMME- ETHICS AND PROFESSIONALISM MODULE DEVELOPMENT

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Aims

Doctors enter the Residency with a varying competency in practical ethics and professionalism (E&P) This paper reports on the outcomes of the development and implementation in 2011/2012 of an E&P module aimed at providing a sound foundation on which residents can base and build their practice.

Methods

From the Singapore Medical Council's Ethical code, 10 areas of practice were identified as having foundational importance. These were informed consent, disclosure of medical errors, conduct of research, relating to colleagues, personal conduct, consultant led care, sponsorship and gifts, confidentiality, care at the end of life and loss of medical decision making capacity. Learners were required to submit written answers to questions based on assigned reading materials, submit an anonymized vignette of an example from personal practice reflecting on the ethical issues and how it was resolved. In all about 4 hours of preparation time was estimated to be required. The teaching team of 2 clinician reviewed their submissions, and identified resident learning and experiences that needed elaboration and which could be used for teaching how issues could be analysed and resolved. There were 10 contact sessions of 2 hours each spread over 6 months during the 2 and 3rd years of the residency programme. During each session, there was a short didactic component and the rest of the time was used for discussing submitted vignette and tutor suppled cases.

Results

About a third of the entire pool (70) of residents registered for the module and only half of them participated in all aspects of the learning. Feedback obtained at the end of each session and at the end of the module, revealed that pre session preparation time was demanding, vignette development was enriching and practical evaluation in small groups of submitted vignettes brought reality, developed basic skills of resolution of ethical and professional issues and instilled confidence.

Conclusion

Based on this, the pre session preparation time for the next batch was reduced, the didactic component was removed and more teachers were introduced. The residents through role play were enabled to practically and personally address and resolve E&P issues. Department Programme directors were informed and requested to study and decide on their response to the significant non-participation in the module by the majority of the residents. In conclusion, residents report maximal learning through small group evaluation in a safe environment of ethical issues and their resolution, even when simulated.

E-POSTER PRESENTATION – SESSION 4

STATION 1

D2001 **New Challenge of the System to Share Medical Images and Videos for Medical Education With Colleagues around the World**
Masahiko Hara, Japan

D2002 **Heavy Workload of Third Year Clinical Rotation Affects Effective Learning of Para-Clinical Subjects**
Thilini Agampodi, Sri Lanka

D2004 **Using Digital Media as an Intervention Tool in Modifying the Learning Approach of Medical Students**
Sonali Prashant Chonkar, Singapore

D2005 **Design, Delivery, and Evaluation of a Hospital-Based Seminar on Intramedullary Nailing**
Ernest Kwek, Singapore

D2006 **Learning Psychopathology and Communication the Simple Way**
Joergen Nystrup, Denmark

STATION 2

D2008 **A Study on the Learning Curve of the Ophthalmic Surgery Simulator**
Shamira Perera, Singapore

D2009 **The Concept of Supervision in Postgraduate Medical Education in Faculty of Medicine Universitas Indonesia: An Exploratory Study**
Gregorius Ben Prajogi, Indonesia

D2010 **Evaluation of Basic Clinical Skills Teaching System Based on a Survey Among Medical Students**
Anyi Liang, China

D2011 **Medical Student's Perception on Moodle Based Learning Facilitation: Experience from Low Middle-Income Country**
Buddhika Wijerathne, Sri Lanka

D2012 **Methods of Continuing Professional Education Preferred by Optometrists in Singapore**
Chua Si Qi, Singapore

D2013 **Perception and Utilization on Web-Based Learning Management System Among the Medical Undergraduates in Faculty of Medicine, Colombo, Sri Lanka**
Akalanka Hettihewa, Sri Lanka

D2014 **The Attitude of Nursing and Midwifery Students of Kermanshah University of Medical Science Toward the 6-Fold Principles of Medical Ethics in 2015**
Haleh Jafari, Iran

D2015 **Knowledge of Orthopaedic Implant Costs and Healthcare Schemes Amongst Orthopaedic Residents**
Foo Gen Lin, Singapore

D2016 **Developing a Competency-Based Clinical Assessment Tool for Clerkships**
Win May, United States of America

D2017 **Use of Electronic Devices: Influence on the Academic Performances of the Medical Students**
ATM Emdadul Haque, Malaysia

D2018 **A Comparative Study of the Cultural Drivers Affecting Learning, Practice and Perception of Medical Professionalism in Pakistan**
Junaid Sarfraz Khan, Pakistan

D2019 **Barriers to Effective Mentoring in ACGMEI - Pediatrics Residency Program in Qatar**
Ahmed Alhammadi, Qatar

D2020 **"Weekly Prize" for Summative Assessment: Medical Undergraduates Are Not Interested? An Experience from a New Medical School in Sri Lanka**
Suneth Agampodi, Sri Lanka

D2021 **Developing Anticoagulation Pharmacists - An Evaluation of an Anticoagulation Management Program**
Koh Sei Keng, Singapore

D2022 **Standard Setting the Borderline Pass Mark for Script Concordance Testing (SCT) to Assess Clinical Reasoning – 5 Years' Experience**
Siu Hong Michael Wan, Australia

D2023 **A Model Workshop for Developing Skills of Systematic Reviews at Hospitals: Midterm Report**
Hiraku Tsujimoto, Japan

D2024 **The Correlation Between Good Learning Pattern and Achievement Index on Medical Student of Bandung Islamic University, Indonesia.**
Ismawati Mardjohan, Indonesia

D2025 **The Development of a Registrar Transition Course**
Bronwyn Avard, Australia

D2026 **Simulated Pathological Eye Case Scenario (SPECS) - A Better Model for Teaching Ophthalmology in Medical Undergraduates than Conventional Teaching**
Yip Chee Chew, Singapore

D2027 **What do Residency Program Executives Really Want? - A Learning Needs Analysis Survey**
Joyce Teo, Singapore

D2028 **Perception of Anesthesiologists' Role by Medical Colleagues**
Harivelle Charmaine Hernando, Philippines

D2001

NEW CHALLENGE OF THE SYSTEM TO SHARE MEDICAL IMAGES AND VIDEOS FOR MEDICAL EDUCATION WITH COLLEAGUES AROUND THE WORLD

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Aims

Although medical imaging modalities play important roles in daily clinical practice, only a few images and videos of each diseases are available on internet for medical education. The aim of our project is to make a web-based medical system which helps us share typical medical images and videos of various diseases with our colleagues around the world.

Methods

We have launched The Journal of Typical Medical Images and Videos (JTMIV: http://thejtmiv.com/) on May 16, 2015. This system is available both in English and Japanese. We offer users a 6-month fee trial subscription and 1-year extension when users post at least 1 case during free subscription period. JTMIV is a unique medical journal for the following 6 reasons:

(1) Our focus is to share medical images and videos of various diseases in all medical fields.

(2) JTMIV grants users the license to use posted images and videos for educational purposes although this data may be downloaded by users for a fee in order to maintain our system.

(3) JTMIV can provide us with a more pragmatic approach to learning about clinical medicine by gathering data from both patients and the imaging device. Gaining knowledge and experience about the relationships between imaging modalities, for example the relationship between screening tests and invasive tests, will contribute to our clinical decision making.

(4) We place more value on learning the case variations of the disease.

(5) JTMIV does not implement the peer review system before publication. The content posted will be evaluated by comments from users, using the "Typical Image" and "Educational Case" buttons after publication.

(6) JTMIV is completely free of charge for students who are studying to become medical doctors, and active users who post their cases.

Results

Within 2 months after the launch of JTMIV, about 85 medical professionals in Japan including president and several professors of medical universities as well as medical students expressed their dedicated support by agreeing that their names being listed as the premium advisory board members on our web-site (Japanese only). We also got greater than 1000 likes from Facebook, 116 subscribers, and approximately 30 cases posted in these 2-months.

Conclusion

The goal of JTMIV is to provide medical clinicians with more valuable opportunities to gain medical education with medical images and videos, and contribute to the provision of quality medical care around the world. To reach our goal, it is necessary to start with a blank sheet of paper. Only with your help can we achieve this. If you identify with our vision, we would truly appreciate your subscription for a fee (about US $85/year) in order to maintain our system. We would also appreciate your submissions and if you would inform your colleagues about JTMIV using social media sites.

D2002

HEAVY WORKLOAD OF THIRD YEAR CLINICAL ROTATION AFFECTS EFFECTIVE LEARNING OF PARA-CLINICAL SUBJECTS

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Aims

To evaluate student participation, methods of access and perception on the introduction of e-learning to facilitate their heavy work schedule.

Methods

A self-administered student feedback questionnaire was used among all the consented third year medical undergraduates of Faculty of Medicine and Allied Sciences, Rajarata University, Sri Lanka to obtain their perception about novel e-learning incorporated general pathology module conducted in parallel to third year clinical rotation. Students rated their perception about the program using both quantitative and qualitative methods. Informed consent was obtained from students before evaluation procedure.

Results

One hundred and eighty one consented students participated in evaluation of novel e-learning method. Among participants (175) 96.7% had logged into moodle and average time a student spends on Pathology moodle program was 134minutes (SD ±123.5) per a week. Among participants, 133 (74.3%) used computer to log in and 47 (26.3%) students used smart phone and further 29 (16.2%) students used tablet computer to log into moodle. Most of the students (n=96, 55.2%) use mobile internet connections (dongle with a SIM card and in addition, some used mobile phones (61 students, 35.1%) or Wi-Fi facility (34 students, 19.5%) as the mode of connection to internet. Among student who participated in online programs, 39(21.5%) reported that spending time on online working is difficult due heavy workload of the clinical rotation.

Conclusion

Novel e-learning methods have been incorporated in to the curriculum of few para-clinical subjects to improve existing system; however it was evident that students have encountered problems in time management for involving in the parallel program. Thus special attention should be given to prioritize the time allocation in the third and fourth year medical curriculum with respect to teaching para clinical subjects and the parallel clinical rotation program.

USING DIGITAL MEDIA AS AN INTERVENTION TOOL IN MODIFYING THE LEARNING APPROACH OF MEDICAL STUDENTS

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Aims

Our project aims to study the use of digital intervention in enhancing the learning approach among medical students. Having identified the pattern of predominant learning approach among students, we aim to reduce surface learning and increase deep learning approach using a digital video intervention tool.

Methods

Supported by a Teaching Enhancement Grant (TEG) awarded by NUS Centre for Development of Teaching and Learning (CDTL), we brainstormed, conceptualized and produced a digital video "Be a Predominantly Deep Learner in Medicine". This video introduced the learning approaches and featured students representing the various learners in various scenes. Before the video intervention, Approaches and Study Skills Inventory for Students (ASSIST) surveys for assessing learning approaches were administered to participants during orientation. A video evaluation survey was administered after screening the video. A second ASSIST survey was administered at the end of posting four weeks later.

Results

The pilot study involved 17 students. Before video intervention, 52.9% (9/17) employed deep learning approach, 29.4% (5/17) employed surface learning approach and 23.5% (4/17) employed strategic learning approach. We administered ASSIST surveys four weeks later to 15 students as 2 were absent. Results indicate that 73.3% (11/15) employed deep learning; 20.0% (3/15) employed surface learning while 26.7% (4/15) employed strategic learning as the predominant approach. The percentage of students who employed deep learning approach increased from 53% to 73% and those who employed surface learning approach decreased from 29% to 20%.

Conclusion

Our results indicate that video intervention had shifted the learning approach of some students towards deep learning. Digital media can be used as an educational tool to enhance the learning approaches of medical students.

D2005

DESIGN, DELIVERY, AND EVALUATION OF A HOSPITAL-BASED SEMINAR ON INTRAMEDULLARY NAILING

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Aims

"Backward planning" is a well-accepted curriculum development process that is based on identifying the common and critical problems in a specific field, identifying any existing gaps in knowledge, skills, and attitudes, and defining competencies (ie, abilities) that healthcare professional must have to address and prevent these problems. To complement an extensive list of course offerings for orthopedics/trauma trainees/residents worldwide, a planning committee of surgeons within AOTrauma designed two half-day, hospital-based educational events to provide more focused learning on the principles and techniques of intramedullary nailing for fracture fixation.

Methods

Based on patient problems, the committee defined 6 overall competencies related to intramedullary nailing, and identified detailed knowledge, skills, and attitudes for each one. Based on common fractures and complications managed by trainees using nailing, the committee designed two interactive, half-day, face-to-face educational modules for basic and advanced levels. They defined six objectives for each level and developed a set of assessment items (12 multiple choice questions) to administer before and after the module. The half day seminars are being delivered in 3 hospitals worldwide in pilot format in late 2015 (in Singapore, Germany, and Brazil). Standard evaluation data are being gathered as well as additional feedback from participant and faculty.

Results

Data from the three hospital-based nailing education events (n=48 participants) will be compared to existing AOTrauma nonhospital-based events targeting the same participants. The percentage of correct answers to 2 assessment questions per competency, as well as the respondents' perceived level of ability before and after the seminar, will be analyzed. Aspects such as the proportion of time allocated to case-based discussion, integration of resources such as videos, and hands-on demonstrations will be compared with past educational events. Responses to post event evaluation questions such as "To what degree was each of the learning objectives met?" will be reported.

Conclusion

A half-day, interactive, hospital-based seminar on specific aspects of intramedullary nailing is expected to help meet the educational needs of trainees. A focused-topic event can complement existing trainee education and opens opportunities to integrate interprofessional learning within the practice environment.

LEARNING PSYCHOPATHOLOGY AND COMMUNICATION THE SIMPLE WAY

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Aims

To interact with medical students through a video medium.

Methods

Utilising the play-back technique described by Norman Kagan (Kagan,N.,Kratwohl,D.R., & Miller,R.:Simulated recall in theraphy using videotape - a case study. Journal of Counseling Psychology, 10: 237-243, 1963).

Results

Medical students in psychiatric clerkships need to learn about psychopathology. They have to read textbooks and listen to lectures. Some places offer group discussions. In order to facilitate clinical skills students are required to produce some medical records.

Since psychiatry is regarded as a soft discipline many teachers are inclined to introduce rating scales and complicated structured interview schemes to the students in order to show that psychiatry can be measured. Well known structured interview schemes are PANSS, OPCRIT, SCID and Hamilton.

The question is whether this enhances a basic clinical understanding of psychopathology or makes the understanding more theoretical and quantifiable?

For some years I have exercised the medical students from The University of Copenhagen in psychopathology the simple way:

Each student must interview a psychiatric patient for the length of ten to fifteen minutes and have this interview video recorded. They are instructed - not to use any structured interview systems. Instead they have to be themselves enhancing their inborn talents to be curious and listening. In that way the interview becomes more humanistic and the students meet another person with their person.

The students then meet in groups of six to eight with their teacher prepared to analyze the video tapes. This is done by a play back session. Astonishing it is very easy for both the teacher and the students to stop the tape and identify psychopathological signs and symptoms. And the students are eager as detectives to experience clinical psychopathology.

The play back session can be developed further and be used generally in post graduate supervision. This method has been described by Norman Kagan et al (Kagan,N., Krathwohl, D.R., & Miller, R.: Stimulated recall in therapy using videotape - a case study. Journal of Counseling Psychology, 10: 237-243, 1963.

The technique contains:
1. Video playback of an interview.
2. Frequent stops of tape asking completely open questions like:
3. What happened now?
4. Adding questions and answering counter transferring feelings:
   - what did you wish had happened here?
   - did you encounter any fears or difficulties in conducting the interview at this point?

Conclusion

By avoiding complicated structured interview schemes asking medical students or postgraduate residents to simply be curious and interested - and videotape this conversation complcated psychopathology can be revealed through a play-back technique.

D2008

A STUDY ON THE LEARNING CURVE OF THE OPHTHALMIC SURGERY SIMULATOR

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Aims

To assess the learning curve on a robotic virtual reality ophthalmic surgery simulator and determine which tests are discriminatory in grading surgical aptitude among resident surgeons.

Methods

A total of 7 year 1 and 2 Ophthalmology residents were recruited into this prospective educational case series. They were allowed to practice on the Eyesi Surgical Simulator (VRmagic Holding AG, Mannheim, Germany) which allows training of cataract surgery via a simulator programme. Across the three training modules, Phacoemulsification 1, 2 and Basic Microsurgical Skills, participants were allowed to repeat their attempts on all training modules until the 'Pass' criteria of the respective modules was been reached. The 'Pass' criteria is defined by obtaining a minimum of 3 times of a score of 80 or more. The mean and standard deviation of the number of tries, scores and time taken to complete the respective modules were recorded for each participant.

Results

Participants took the most attempts on the Phacoemulsification 2 modules, namely the 'Phaco Divide and Conquer', 'Phaco Chopping and Training' and the 'Hydro Manoeuvers' modules. The numbers of attempts to the 'Pass' in these modules were 26.1 25.7 and 25.1 times respectively accompanied by a large SD indicating a large variation. The total time required was 116, 98 and 68 seconds respectively. In contrast, fewer attempts were needed on the Phacoemulsification 1 modules - 'Phacoemulsification', 'Cracking and Chopping Training' and the 'Bimanual Training', with 10.4, 9.2 and 7.7 attempts respectively.

Conclusion

Residents required the most number of attempts on the Phacoemulsification 2 modules. In particularly, the Phacoemulsification 2 modules 'Phaco Divide and Conquer'and 'Phaco Chopping and Training' modules may be better discriminatory tests of a resident's surgical aptitude in Phacoemulsification on the Eyesi Training Simulator . As this correlates well with the observation that residents find these tasks more challenging on real-world patients, this seems to validate Eyesi's scoring system.

D2009

THE CONCEPT OF SUPERVISION IN POSTGRADUATE MEDICAL EDUCATION IN FACULTY OF MEDICINE UNIVERSITAS INDONESIA: AN EXPLORATORY STUDY

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Aims

In postgraduate medical education, trainees progress through their training in a series of increasing levels of responsibility. This stepwise advancement in level is not only crucial to the acquisition of progressively higher levels of competence, but also to patient safety: ensuring that medical treatment is delivered by individuals possessing the required set of competencies. Supervision and assessment are essential in ensuring that these goals are achieved. However, as evident by the various approaches proposed in the literature, achieving an effective process of supervision that encourages learning without compromising patient safety is a complex process involving not only interactions between the trainee and the supervisor but also various other aspects in the hospital/educational environment.

The aim of this study is to gain a better understanding of the meaning and importance of various concepts related to competence and supervision through exploration of the perspectives of multiple parties involved in several postgraduate medical education programs in a tertiary level teaching hospital.

Methods

A qualitative phenomenological approach was used in this exploratory research. Twelve in-depth interviews are conducted with program directors and teaching staffs / clinical supervisors and three focus groups are conducted with eighteen residents from six postgraduate medical education programs in Universitas Indonesia. The Entrustable Professional Activities proposed by Ten Cate was used as the framework for this study. Themes will be identified, grouped and analyzed, and further member checking and triangulation with documented policies in the curriculum will be conducted to ensure validity of the results.

Results

This is a study in progress. The results will be reported later.

Conclusion

This is a study in progress. The results will be reported later.

D2010

EVALUATION OF BASIC CLINICAL SKILLS TEACHING SYSTEM BASED ON A SURVEY AMONG MEDICAL STUDENTS

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Aims

This study aims to investigate and evaluate the comprehensive basic clinical skills teaching system in Shantou University Medical College (SUMC) based on the views of medical students.

Methods

The study consisted of two parts, the first of which studied the assessments and comments on early basic clinical skills teaching in the form of questionnaires. The second part thoroughly investigated the modes and conditions of clinical skills teaching toward interns by follow-up investigation and interview. The data was processed by EXCEL and SPSS17.0 software.

Results

In the first part, the results showed that 91.5% students approved or highly approved of using "basic clinical skills" course and clinical skills training center as the carrier of teaching. 27.4% students agreed with the current curriculum designing but 64.1% suggested that some adjustments in teaching contents and sequences are still needed. And 57.5% students think the training devices and models should be repaired or upgraded. The results of the second part suggested that in surgical skills training, the more students practiced the higher examination scores they got. In OB& GYN training, those students who practiced the most got a relatively lower score. In emergent resuscitation training, the students with higher scores (above 80) all attended the simulating training classes and followed the training plans strictly.

Conclusion

The use of "basic clinical skills" course and clinical skills training center as the carrier of teaching is highly approved by our medical students. Meanwhile some improvements are still needed on curriculum designing and training center construction. Apart from the quantity of practices, to ensure high quality basic clinical skills training is one of the determinants of teaching and learning quality. Besides, simulated training still played an important role in the mastery of clinical skills. This paper is of great significance in promoting the development and improvement of this clinical skills training system.

D2011

MEDICAL STUDENT'S PERCEPTION ON MOODLE BASED LEARNING FACILITATION: EXPERIENCE FROM LOW MIDDLE-INCOME COUNTRY

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Aims

To evaluate how medical undergraduate perceive Moodle based online learning facilitation.

Methods

We have conducted Moodle based learning facilitation program for medical undergraduates in addition to routine teaching methods (Lectures, tutorial and practical's) in general pathology. After attending a weekly lecture, they had to participate activities offered in an online Moodle-based interface, where a lecture notes are also available. Then they answer a question in online discussion forum, participate in an online quiz and complete an online assignment. In answering, the question students have to refer a textbook, journal article or an online resource and cite it using 'Vancouver' style. Marks were given and a prize given to the best performer each week. At the end of the whole module student feedback using closed and open-ended questions was obtained to assess their perceptions. Both quantitative and qualitative analysis was carried out. Informed consent was obtained from all students to use these evaluation remarks as scientific publications.

Results

Out of 185 students, 181 completed the self-administered questionnaire. The average age was 23.5 (SD ±1.1) and male to female ratio is 0.6 to 1. 86.6% students agreed that it facilitated their study while 1.7% disagreed and 11.7% were equivocal. Positive responses were; helped to prepare for essay and OSPE, facilitated revision and recall, clarification after discussion with both peers and tutors, induced them to read other resources, facilitated self-study and self-evaluation and was readily accessible from anywhere(even when they loose a hard copy). One disagreed as long stay in front of computer screen had precipitated her migraine. Majority (96.1%) agreed that providing online colourful lecture note facilitated their studying but some (1.1%) who disagreed. Most of them found colourful notes facilitated remembering, understanding and preparation for OSPE. 92.8% students agreed that weekly quiz had facilitated their study while 1.1% disagreed. Most students found that quiz helped to revise and encouraged referencing other material. Many (80.5%) agreed that discussion forum had facilitated their learning whereas 3.4% disagreed. Most students used discussion forum as a place of; peer-facilitated learning, contact with tutors to resolve doubt and guiding them to identifying essential areas to study. 83.3% Student agreed that end of week assignment had assisted their studying and 2.9% who disagreed. Many found it motivates and self-evaluates. Only 56.0% student found reward for the best student facilitative to learning while 15.4% disagreed.]

Conclusion

It is evident that student welcomed the online leaning facilitation program. Unanticipated problems like computer screen precipitating migraine and similar challenges to online education should be taken in to consideration. However, rewarding the best student did not find near universal approval.

D2012

METHODS OF CONTINUING PROFESSIONAL EDUCATION PREFERRED BY OPTOMETRISTS IN SINGAPORE

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Aims

Optometrists play an important role in primary eye care in Singapore. In addition, they are vital members in the eye care team in the public and private healthcare institutions. Therefore, the Continuing Professional Education of Optometrists (CPEO) is essential to uphold and advance the professional standard of the fraternity to achieve quality patient care.

This study aims to explore the CPEO in Singapore. The specific objectives are to identify the preferred methods of CPEO, topics of interest in CPEO, and the level of support given to assist the optometrists in undertaking CPEO activities.

Methods

Stratified random sampling was used to obtain a target representative sample of 87 optometrists. The population was divided into different strata based on the field of employment. A non-experimental research design was adopted with the use of a study questionnaire that was designed to evaluate various educational modalities for CPEO. The questionnaire consisted of 9 questions in different formats including fixed-choice question, ranking of parameters based on preferences and Likert rating scale. Eight types of CPEO activities were included as choices in the questionnaire; namely workshops, talks, conferences or meetings, publications, journals, practice guidelines compilations, videos (or audiotapes and podcasts) and certification course in optometry.

Results

Thirty-eight of the 87 optometrists responded to the questionnaire. Based on learning needs and schedule, "talks" was the most preferred CPEO activity (23.7%, 9/38) overall. Breaking it down further, "journals" was the most preferred (38.5%, 5/13) by diploma holders while "workshops" was the most preferred (27.8%, 5/19) by degree holders. An average of 53.9% (21/38) felt that all CPEO activities were "rather important' in developing their skills and knowledge, with the exception of "publications" and "videos". Further analysis with the Mann-Whitney test showed that the use of "videos" was rated significantly less important than "talks" ($p=0.022$), "workshops" ($p=0.007$) and "journals" ($p=0.03$).

Out of 7 given topics of interest, the top 2 topics preferred to be covered in CPEO activities were "clinical optometry" (81.6%, 31/38) and "pediatric optometry/binocular vision" (65.8%, 25/38). The least chosen topic was "research" (31.6%, 12/38). 34.2% (13/38) rated that CPEO activities organized were either "somewhat sufficient" or "most sufficient" to support them in developing the essential skills and knowledge; while 65.8% (25/38) rated between "least sufficient" to "neither sufficient nor insufficient". Half the total respondents (19/38) found that the level of support given by their employers to assist them in undertaking CPEO activities as either "somewhat supportive" or "most supportive" while the other half (19/38) found it to be between "least supportive" to "neither supportive nor unsupportive".

Conclusion

The preferred methods of CPEO and topics of interest (based on educational level) should be promoted and included to ensure active and continuous participation of CPEO activities among optometrists in Singapore. The findings from this study can provide practical information for CPEO providers and possibly enhance future development of CPEO educational programmes.

D2013

PERCEPTION AND UTILIZATION ON WEB-BASED LEARNING MANAGEMENT SYSTEM AMONG THE MEDICAL UNDERGRADUATES IN FACULTY OF MEDICINE, COLOMBO, SRI LANKA

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Aims

E-learning has become one of the mainstream trends in medical education. Globally it is gradually replacing traditional teaching and learning methods in medical education. Most of academic institutions deliver E-learning programmes through a web-based Learning Management System (LMS). Faculty of Medicine, University of Colombo (FoM, UoC) maintains MOODLE based LMS and it contains lecture materials, interactive lessons and video clips. The content is organized according to the curriculum structure which consists of five academic streams, i.e. basic sciences stream, applied sciences stream, community stream, behavioral sciences stream and clinical sciences stream.

This study examines the perception and utilization of a LMS among the undergraduate medical students in Faculty of Medicine Colombo, Sri Lanka.

Methods

Total of 182 students participated in the study at a response rate of 91%. Data on students' perception of LMS, its' usefulness and adequacy of content was collected through a self-administered questionnaire. Data on utilization were obtained from the LMS.

Results

The study found that students had an overall positive perception regarding the LMS. Students found LMS was easily accessible (70.9%), contained useful material (77.5%) which were helpful in exams (58.8%) and that it had satisfactory administrative support (68.7%). LMS was interactive (67%), user friendly (70.3%) with adequate instructions for guidance (66.4%). However, 55.5% had faced technical problems when using the LMS. Some of the participants were not sure if using LMS was enjoyable (40.7%) and of whether LMS motivated them for further learning (34.6%).

Students perceived material in LMS on different subjects were useful on anatomy (48.9%), physiology (46.9%), and biochemistry (34.1%). However students were unsure of the usefulness of content on cardiovascular (39.7%), respiratory (33%), gastrointestinal (26.5%) systems and on nephrourology (39.4%) and nutrition (48.5%) They perceived the content to be adequate in anatomy (78.8%), physiology (75.7%) and biochemistry (65.8%). Majority of participants found amount of content regarding body system based modules of cardiovascular (70.6%), respiratory (76.1%), gastrointestinal (90.9%) and nephrourology (90.4%) inadequate. These findings were comparable with the actual amount of content and material provided in the LMS by each subject and module.

Data on utilization followed the same trend as the perception on usefulness and adequacy. For anatomy student participation was 243 for 5584 views, with an average of 22.97 views per student per year. For physiology average views were 11.36, average views were much lower for cardiovascular (1.46) respiratory (1.58) modules. However nephrourology module had 16.33 average views in spite of providing low amount of content. It may be due to that the material provided by this module had high level of interactivity.

Conclusion

Students' perception on LMS is generally positive. LMS can be made more useful to students by providing more material, increasing the interactivity and regular updating. Technical and administrative support need to be improved to ensure optimum utilization.

D2014

THE ATTITUDE OF NURSING AND MIDWIFERY STUDENTS OF KERMANSHAH UNIVERSITY OF MEDICAL SCIENCE TOWARD THE 6-FOLD PRINCIPLES OF MEDICAL ETHICS IN 2015

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Aims

Medical ethic is an important issue that consists of respect to the patient autonomy, beneficence, non-malfeasance, justice, veracity, and confidentiality of information. The purpose of the current study was to determine the attitude of Nursing and Midwifery students of Kermanshah University of medical sciences regarding the 6-fold principles of medical ethics.

Methods

76 nursing and midwifery students in last year were enrolled by in this descriptive cross-sectional study. Data collection tool was a valid and reliable questionnaire about medical ethic. The questionnaire had 17 statements in Likert-type scale. The questionnaire was completed by students. A comparison between the nursing and midwifery students was done using analytic statistic tests including independent t-test and ANOVA.

Results

The general score of students' attitude was 95 ± 4.8. The attitude of the majority of samples (96.26%) about medical ethic was positive and 3.73% of samples had relatively positive attitude. There were not statistically significant relationship between students' attitudes and gender (t = -0 / 27, p = 0/78), field of Study (t = -1 / 3, p = 0/199), marital status (t = -1 / 378, p = 0/178) and age (f = 1/606, p = 0/2).

Conclusion

All students have a positive attitude regarding the principles of medical ethic. This finding has valuable for clinical environments.

D2015

KNOWLEDGE OF ORTHOPAEDIC IMPLANT COSTS AND HEALTHCARE SCHEMES AMONGST ORTHOPAEDIC RESIDENTS

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Aims

With rising healthcare costs and introduction of new healthcare schemes, it is important for clinicians to be more aware of these issues in order to better counsel patients and provide cost-effective management. Orthopaedic surgeons should have a good understanding of orthopaedic implants costs in order to decide what best to use for optimal efficacy and affordability.

Our study explores the knowledge of healthcare schemes and implant costs amongst orthopaedic residents and also to assess if senior residents have better knowledge given their increased experience.

Methods

We recruited all orthopaedic surgery residents within the National Healthcare Group Sponsoring Institution. The survey was conducted electronically with emails sent out to 33 residents.

The survey included the participant's year of residency and their perception of their knowledge of orthopaedic implant costs and healthcare schemes. This is followed by 14 questions on healthcare schemes and estimation of the cost of 13 commonly used implants.

The estimated implant cost was compared to the actual cost to determine the percentage error.

We also compared the percentage error between senior residents (Year 4 and 5) and junior residents (Year 1, 2 and 3) to assess for significant difference.

Results

26 out of the 33 (78.8%) residents took part in the survey. The number of participants according to their residency year were R1 (2), R2 (6), R3 (9), R4 (4) and R5 (5). The participants' perception of their knowledge of implant costs were mainly poor (11). 5 felt their knowledge was very poor, 9 average and 1 good. Perception of knowledge of healthcare schemes were mainly average to poor (24) with 2 who felt that it was good.

For the healthcare scheme questions, junior residents scored an average of 36.6% and senior residents, 19% with a combined score of 29.7%. There was no significant difference between the 2 groups (p-value = 0.14).

The combined average over-estimation of implants was 404.9% (roughly 4 times the actual cost of the implants). The mean average of the errors for each implant were all over-estimations, with the Synthes Proximal Femoral Nail Antirotation being the least over-estimated implant and the 6-hole 1/3 tubular plate being the most over-estimated implant.

Senior residents have a lower mean over-estimation of 183% compared to junior residents who over-estimated by 523%. However, statistical analysis with an unpaired t-test did not show any significant difference in the estimation of implants costs amongst the senior and junior resident groups (p-value = 0.27).

Conclusion

The majority of orthopaedic surgery residents feel that their knowledge of implant costs and healthcare schemes to be poor. They tend to over-estimate the costs of implants especially the more 'basic' ones.

Senior residents have a mean better estimation of implant costs but poorer knowledge of healthcare schemes but no statistically significant difference was found between the senior and junior resident groups.

These findings suggest a need for greater awareness of healthcare schemes and implant costs which should be incorporated into the residency program to bring about more holistic and cost-conscious clinicians.

D2016

DEVELOPING A COMPETENCY-BASED CLINICAL ASSESSMENT TOOL FOR CLERKSHIPS

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Aims

To develop a competency-based clinical assessment tool for clerkships with explicit behavioral anchors to allow more standardized assessment and feedback for learners.

Methods

We used the Keck School of Medicine Objectives/Competencies as the basis for developing this tool. For each Objective/Competency, we designated 3 levels - Level 1 being parallel to the Observer level of the RIME framework, Level 2 being similar to the Reporter level, and Level 3 being equivalent to the Interpreter level. For each competency, behavioral anchors were developed, by a core team of curriculum deans, clerkship directors, medical student educators, and medical education experts, in addition to using the Core Entrustable Professional Activities for Entering Residency. A core group of volunteer faculty will be requested to pilot-test the tool. These faculty will also continue to use the current tool being used in the clerkships. This will allow comparison of the data, as well as the ease of use by faculty, and the ability to provide more specific, targeted feedback to the learners.

Results

We will have data by the APMEC conference date.

Conclusion

The motivation for the development of this tool is to be able to have a more detailed description of student expected behaviors. This will enable faculty to be more standardized in their student assessment as well as provide ore specific, targeted feedback to the learners.

USE OF ELECTRONIC DEVICES: INFLUENCE ON THE ACADEMIC PERFORMANCES OF THE MEDICAL STUDENTS

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Aims

The availability and the use of electronic devices (ED) among the students of higher education have been continuing to grow. The devices connect the users to the world instantly, allow access to information and enable interactivity with others. The use of these devices are playing an important role especially in their academic lives. This study was therefore designed to identify the types of devices used by the students, purpose of their use, and its influence on their academic performances.

Methods

A questionnaire was developed and its content validity was tested by a survey expert. About 300 questionnaires were distributed among the available Year-1, Year-2 and Year-3 students, and 230 completed questionnaire were collected back from the participants. The data collected were inserted in the SPSS (version 17.0) programme and analysed accordingly.

Results

Descriptive analysis showed that 71.7% of the respondents were female, 68.7% were in 20-21 age group, and 42.2% were from Year-1, 42.6% were from Year-2 and the rest from Year-3. Among different types of electronic devices, 89.6 % of the respondents used to use smartphone, while 65.7% admitted that they used electronic devices in the class room. It was also found that 57% of the respondents used to use ED more than 2 hours/day for non-academic purposes while 53% use more than 2 hours/day for academic purpose. Amid the smartphone users, about 48% scored >65% marks in their last examination. Surprisingly, no significant association was observed between the usages of electronic devices either for academic or non-academic purposes on the students' overall performance.

Conclusion

In this study, students' learning behaviour with electronic devices especially smartphones was explored, and the data indicated that they want more access to the academic friendly devices. Since it is an era of technology, we cannot control the use of electronic devices even in the classroom, but it is believed that the smart use of them will help improve the academic performances of the students.

D2018

A COMPARATIVE STUDY OF THE CULTURAL DRIVERS AFFECTING LEARNING, PRACTICE AND PERCEPTION OF MEDICAL PROFESSIONALISM IN PAKISTAN

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Aims

Background: Over the last couple of decades, greater emphasis is being placed on the role of professionalism in medical education especially in relation to how it can be incorporated in the taught and the hidden curriculum. In addition, ways to measure professionalism and professional behavior in the undergraduate students and how it relates to behavior in practice after graduation are areas that educationalists are trying to delve deeper.

Objective: The province of Punjab, Pakistan has the population of over 80 million with the diverse socioeconomic, ethnic, linguistic and cultural backgrounds. The objective of the study to identify diversities in the understanding and practices of professionalism by the healthcare providers, medical students and the public belonging to their diverse backgrounds within the province of Punjab and to understand the contextual relevance of these diversities. This in turn shall help our understanding of the regional trends, challenges and drivers affecting global professionalism.

Methods

This is a prospective qualitative study that has been conducted in the province of Punjab, Pakistan involving the healthcare providers, public, students, administrators, policy makers and patients etc. Total 28 focus group discussions were arranged in the central, north and southern Punjab. There were five categories of the focus group discussions: first category for the faculty members (8-12 participants), second for the medical students (8-12 participants from part I to final year MBBS), third for the Allied Health Sciences students (8-12 participants), fourth for the Allied Health Sciences teachers (8-12 participants) and fifth category for the patients (8-10 participants belonging to different socioeconomic backgrounds). The data gathered from the stakeholders' focus group discussions was entered into Qualitative Data Analysis Software 'NVIVO 9'. Thematic analysis was conducted. Matching views were merged into similar themes.

Results

Different themes that emerged from the focus group discussion in Punjab, Pakistan. Major themes are the effect of role modeling; internal and external regulations; patients and companions' expectations of the role of doctors; pear pressure; effect of regional economic and cultural drivers; pre-medical education and training; regional; societal and family culture and duration of service.

Conclusion

Medical professionalism can be understood in terms of knowledge skills and attitudes specific to medicines as a profession and a sense of right and wrong i.e. moral compass and value traits derived from individual socio-religious-cultural context and experiences specific to each professional both personal and observed.

BARRIERS TO EFFECTIVE MENTORING IN ACGMEI - PEDIATRICS RESIDENCY PROGRAM IN QATAR

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Aims

Mentoring is an important teaching-learning process in competency-based framework, guide residents on various aspects of clinical practice, prepare them for academic and leadership positions. Mentorship was implemented in 2011 as an innovative method in our pediatrics residency program, however, residents' opinions on value and barriers to effective mentoring have not been evaluated. the aims of our study is to determine perceived barriers towards effective mentoring that residents experience during their postgraduate residency training and explore potential recommendations that can overcome these challenges.

Methods

Cross-sectional Survey was conducted among 40 residents at Hamad Medical Corporation, the main tertiary teaching hospital in Qatar. This included details of demographics, perceptions and barriers to effective mentoring in clinical practice. Questions offered objective answers utilizing the 4 -point Likert scale that can be used to perform statistical analysis.

Results

the response rate was 85 %, Nearly (75%) of participant have a positive perception and reported mentoring as a valuable education and professional development experience, Although (62%) get advice for future carriers, only (32%) received help with learning strategies, knowledge, problem solving skills, while (50%) get effective social support .The major barrier identified was; time constraints, mentors availability due to increase clinical and administrative responsibility, interpersonal skills of mentor and mentee, lack of hospital facilitating environment.

Conclusion

Nearly all the residents in this study placed a high value on the mentorship program and perceive mentoring as beneficial for promote education scholarship, academic advancement. Our study shed light on the challenges limiting mentoring experience. Allow residents to have some influence on the assignments, foster communication and regular evaluate process can overcome these obstacles.

D2020

"WEEKLY PRIZE" FOR SUMMATIVE ASSESSMENT: MEDICAL UNDERGRADUATES ARE NOT INTERESTED? AN EXPERIENCE FROM A NEW MEDICAL SCHOOL IN SRI LANKA

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Aims

To see whether "weekly prize" for summative assessment would be accepted by students as an encouragement.

Methods

A transparent evaluation procedure was carried out to assess the participation and performance of an online module. The assessment included online logging time, participation in online discussions and marks obtained at online quizzes. A weekly prize was offered and the prize was previously displayed online for students to see what they are going to get by achieving the highest score. After the module, students' feedback was obtained using a structured evaluation form, which included likert type perception question and an open-ended question to get their views on "weekly prize". Inductive thematic analysis was used to analyze qualitative data obtained from the open-ended question.

Results

Of a total batch of 181 students, 175 (96.7%) provided the feedback. For the statement "Weekly quiz facilitate (make easy) my study" 18 (10.3%) totally agreed, 80(45.7%) agreed to some extent, 50(28.6%) were not sure, 22(12.6%) partially disagreed and 5(2.9%) totally disagreed. Qualitative analysis showed that all those fully agreed to the statement had similar ideas of wining the prize and they were happy that it improved their marks even though they could not win the prize. Those who partially agreed also had similar feedback. In addition some students stated that because of weekly prize, they could evaluate their performance in weekly basis and see whether they are falling behind in subject matters. Those students who neither agree nor disagree to the statement had mixed feedback. Most of them feel that it may be a discouraging factor, but considerable number of feedback showed that those students were under stress and do not like competition. Feedback as extreme as "no more competition is needed" was there. Students disagree with statement were either "not interested" in the prize or hates "competition". Some were not happy with "nominal" prize offered and some already knew that they are not having a chance and hated it.

Conclusion

This assessment was not done with a comparison of students overall performances. Pre and post summative assessment performances would give us a better understanding of the value of this type of activities in undergraduate teaching. However, the reason for 15% of students are against this and another 28% having neutral feelings need to be think carefully.

DEVELOPING ANTICOAGULATION PHARMACISTS- AN EVALUATION OF AN ANTICOAGULATION MANAGEMENT PROGRAM

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Aims

The 4-day Anticoagulation Management Program (AMP) which started in 2003 aims to increase healthcare professionals' (HCP) knowledge and expertise in managing patients receiving anticoagulants (mainly warfarin). The purpose of this study was to evaluate the effectiveness of the yearly AMP in achieving its objectives and to gather information on the application of the knowledge and expertise in clinical practice.

Methods

This was a 2-part evaluation for learner outcomes using Kirkpatrick framework. For part 1, feedback forms were collected from participants at the end of the AMP to evaluate Level 1 (Reactions). For part 2, Level 2 (Learning), Level 3 (Performance) and Level 4 (Results) outcomes were evaluated using online survey with a 6-point rating scale, administered in May 2015. For the online survey, participants rated their level of improvement in six areas covering "knowledge of anticoagulants and disease states, expertise in the management of patients on anticoagulants and evaluating the performance of their anticoagulation clinic, self-confidence and job satisfaction level" and assessed the application of knowledge and skills learned from the AMP had a positive impact on the performance measures of their anticoagulation service.

Results

A total of 86 participants attended AMP from 2011-2014 and 83 (96.5%) participants provided feedback. For part 1, more than 90% of each cohort agreed that the course content, delivery methods and course administration had met or exceeded their expectations. All participants in the study cohort except for the cohort in 2012 (95.83%) agreed that the AMP had met its stated objectives; and they have gained knowledge and skills that would be applicable to their job.

For part 2, out of 68 surveys distributed, 14 responses from pharmacists (20.6%) were received. Eight responders attended the AMP in 2014, 4 in 2013 and 2 in 2011 and their experience at managing anticoagulation at the point of attending AMP ranges from 0 to 7 years. 6 were from primary healthcare and 8 from hospital setting. More than 79% of the participants reported a moderate, significant or very significant improvement in their knowledge and expertise, self-confidence and job satisfaction level at managing patients on anticoagulants. Participants responded that the knowledge and skills learnt from AMP had positive impact on the performance measures of their anticoagulation clinic. The top three performance measures rated as most impactful by attending AMP were "an increase in percentage time in therapeutic range and a decrease in time to reach target INR range for patients on warfarin; and an increase in patient satisfaction". The performance measures rated as less impactful were "establishing new anticoagulation clinics, a decrease in the incidence of bleeding and thrombotic complications and hospitalization rate".

Conclusion

For part 1 evaluation, our data indicates the success of the AMP at meeting its objectives. For part 2, our responders had reported increased knowledge and skills in managing patients on anticoagulants following participation in the AMP and the performance measures of their anticoagulation service had also improved.

D2022

STANDARD SETTING THE BORDERLINE PASS MARK FOR SCRIPT CONCORDANCE TESTING (SCT) TO ASSESS CLINICAL REASONING - 5 YEARS' EXPERIENCE

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Aims

Script Concordance Testing (SCT) is a relatively new modality for assessing clinical reasoning and data interpretation. Students are presented with a clinical scenario and then asked to assess whether an additional piece of information increases or decreases the probability of the diagnosis, increase or decrease the appropriateness of an investigation or management. To score these questions, the student's decision is compared to that of a reference panel of expert clinicians. The School is one of the first universities in implementing SCT for summative assessments. However, studies looking at setting the borderline pass mark for students are lacking.

The aim of the study was to look at an objective way of setting the pass mark of the SCT examination according to the overall performance of final year students.

Methods

We examined 9 cohorts (120 students in each cohort) of graduate-entry clinical year medical students from 2010-2014 using sets of 40 SCT questions to assess their clinical reasoning. The means and standard deviations (SD) of both the expert panels' and student cohorts' scores were analysed. Different cut-off methods of setting the borderline passing score were investigated.

Results

The clinician panel's mean score and SD for the questions were 78.7% and 6% respectively. The student cohorts' mean score and SD were 66% and 7.6% respectively. The mean score of the borderline students across the 9 cohorts is close to the expert panel's mean minus 4 SDs (54%). This cut-off for the borderline score was more consistent with the overall performance of the cohort across the other modalities of assessment. Students with the overall performance at the top 5% had the average score at the panel's mean minus 1 SD.

Conclusion

The use of the panel mean score minus 4 SDs seems to be an objective way of setting the SCT passing score. Additional insight into the standard setting process will be gained by looking at the different grade cut-offs in the credit, distinction and high distinction levels.

D2023

A MODEL WORKSHOP FOR DEVELOPING SKILLS OF SYSTEMATIC REVIEWS AT HOSPITALS: MIDTERM REPORT

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Aims

Background: Systematic reviews play an important part of five steps of evidence-based medical practices. However, a workshop for developing skills of systematic reviews is not common for personnel engaged in medical care at teaching hospitals despite their pressing clinical questions.

Objective: The purpose of our project is to develop a model workshop for participants to acquire skills in creating high quality protocols of systematic reviews based on their clinical questions at teaching hospitals.

Participants: Personnel engaged in medical care.

Methods

We used an action research methodology to create the model workshop, and implemented it at four tertiary care hospitals. Two teachers who are Cochrane review authors including one master of public health holder gave interactive lessons. We improved the program by conducting internal reflection and external evaluations. Reflection is based on questionnaire to participants in each lecture and quality of homework submitted by participants after each lecture. The workshop was based on Cochrane handbooks and Preferred Reporting Items for Systematic Review and Meta-Analysis Protocols (PRISMA-P) 2015 statement.

Results

Outcome measures: Not only the model workshop itself but also accomplished protocols of systematic reviews are assessed as the outcome measure.

Midterm result: We held seven interactive lectures once a fortnight from April 2015 to July 2015 at the first hospital. Twenty-one participants produced seventy-three research questions. Two teachers handled 21 participants and their numerous clinical questions. Then three review teams with seven members accomplished their protocols of systematic review.

Discussion: This is the first approach to construct a model workshop for developing skills of systematic reviews at teaching hospitals using an action research method. We found that medical practitioners had startling number of clinical questions through this workshop and only two teachers were able to handle their numerous clinical questions and to support protocol development. Moreover, it was surprised that three teams accomplish their protocols. One of the reasons why only three teams were able to accomplish their protocols was difficulty of review team meetings. In the first workshop, each review team has two to five members. It is almost impossible for five medical practitioners to meet at the same time during work. Then in the next workshop at the second hospital, we will limit the number of members of review teams to two. In addition, we did not have enough time to answer numerous questions from participants in the lectures. In order to make maximal use of the gathering, we will incorporate "flipped classroom" into the method of lectures at the second hospital.

Conclusion

Our future plan: We are now constructing a model workshop for developing skills of systematic review protocols at teaching hospitals. After completion of this workshop, clinician educators will be able to use this model for teaching method of systematic reviews. Teaching hospitals will be invited to use this model.

THE CORRELATION BETWEEN GOOD LEARNING PATTERN AND ACHIEVEMENT INDEX ON MEDICAL STUDENT OF BANDUNG ISLAMIC UNIVERSITY, INDONESIA.

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Aims

Achievement index translated with Grade Point Average (GPA). Minimum Grade Point Average for continuing medical education at several universities in Indonesia is 2.75. One factor to influenced GPA is the student's learning pattern. Learning pattern are study habits that affect people's learning behaviors. Medical students have to reach an optimum GPA and not only pass the minimum passing grade. This study had been conducted to get an information of the correlation between Good Learning Pattern and Grade Point Average on Medical Student of Bandung Islamic University, Indonesia.

Methods

The research design was an analytic observational cross sectional study on 154 medical students. The study had conducted by examining secondary data of academic documentation of Medical Faculty by filling out the form. The sampling technique used was the probability stratified random sampling and the statistical analysis used Spearman Correlation test.

Results

The result of study showed statistically highly significant correlation between learning pattern and GPA(p value=0.000), with details that there were a strong correlation as much as 72,4% between planning and implementation of learning schedule with GPA and 75.5% between reading and making notes habits with GPA. There were moderate correlation as much as 69.5% between repeat learning lectures habits with GPA, 56.4% between concentrate during studying with GPA and 61.3% between doing tasks habits with GPA.

Conclusion

Concluded there are highly significant correlation between learning pattern and achievement Index on Medical Student. There are positive impacts of good learning pattern for medical student's GPA in the term of planning and implementation of learning schedule, reading and making notes habits, repeat learning lectures habits, concentrate during studying and doing tasks habits.

THE DEVELOPMENT OF A REGISTRAR TRANSITION COURSE

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Aims

Commencing a registrar position for the first time, with an increase in responsibility and focus on applied knowledge, can be an extremely stressful transition for junior medical officers. We have seen a number of stress related incidents over the years in our junior doctors, which can have a negative impact on patients. In response to concerns of potentially poor patient care as a result of stress in this group of doctors, we developed a teaching program for those transitioning from the role of resident medical officer (post graduate year 2-3) to registrar (post graduate year 3-5). We aimed to demonstrate that our newly developed teaching program for new registrars in the Intensive Care Unit would facilitate their improved knowledge and skills in Intensive Care and reduce the anxiety which may impair their effective management of critically ill patients in this environment.

Methods

We conducted a whole day blended training program which included didactic, interactive and simulation based teaching. We surveyed the participants prior to the commencement of the program asking questions about their aims for the day, their confidence in commencing work as a registrar in Intensive Care, and their biggest concerns. We then asked at the conclusion of the program for their reflection on whether they achieved their aim for the day, whether this aim had changed over the course of the program, their confidence at the end of the day in commencing their new job, and feedback on the most useful aspects of the program. We repeated this reflection at intermittent points throughout the year as well to see if their feedback on the utility of the program had changed.

Results

Our program was overall rated very highly by participants, with all demonstrating an increase in their rated confidence in commencing the position between the start of the program and the end of the program. A number of participants indicated that their aims changed over the day, and most reflected that they gained a lot more from the program than they had been expecting to. We have not completed the full year's evaluations of the course at this point but will have these results by the time of this conference in January.

Conclusion

We demonstrated that this program was successful in its first iteration and received feedback that satisfied us on our impression that such a program would be of use for trainees making the difficult transition from a position of less responsibility to a position of far greater responsibility. We will in future years look at measuring the impact of this course on patient centred outcomes.

D2026

SIMULATED PATHOLOGICAL EYE CASE SCENARIO (SPECS) - A BETTER MODEL FOR TEACHING OPHTHALMOLOGY IN MEDICAL UNDERGRADUATES THAN CONVENTIONAL TEACHING

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Aims

Simulated Pathological Eye Case Scenarios (SPECS) is a novel teaching model of Ophthalmology. It utilises the concepts of problem-based learning, patient simulation, structured viva, mind mapping and small group tutorial. It is an interactive session that involves the teaching of specific eye conditions using a simulated "patient" integrating basic and clinical sciences, teacher and peer feedback.

We aim to compare the SPECS teaching method with conventional didactic lectures and clinical tutoring using student feedback scores.

Methods

SPECS was done in the eye clinic over two academic years (AY) in one hospital (Khoo Teck Puat Hospital {KTPH}) by a consultant Ophthalmologist, the SPECS tutor (SPECS-T), to a small group (4-6) of fourth year medical students during their 2 week Ophthalmology posting to Khoo Teck Puat Hospital. The patient demographics were first presented to a student (the examinee) who would take a history from the simulated "patient" (SPECS-T) and demonstrate the relevant eye examination technique(s) such as visual field testing on a volunteer student. A power point slide of the simulated eye pathology (such as bi-temporal hemianopia) was presented. The diagnosis and management of the eye case scenario was then discussed in an interactive oral viva style covering the relevant basic sciences, pathology and clinical medicine. The observer students and finally the teacher gave their feedbacks on the examinee performance.

Students from KTPH of AY 2013/14 and AY 2014/15 (n= 116) had SPECS; while their peers from another 3 hospitals (n= 415) had conventional teaching (CT) consisting of didactic lectures, small group teachings and clinic attachment. Students from AY 2013/14 were evaluated with 2 mini-CEX and those from AY 2014/2015 were examined with 5 micro-CEX (a mini-CEX variant with shorter but more focused testing).

The median score percentage (MSP) and interquartile score percentage (ISP) for the mini-CEX in both groups were compared. The MSP and ISP for the different gender were also computed.

Results

The MSP and ISP of both AY followed a non-parametric distribution. Kruskal Wallis test of association was used. The MSP and ISP (25th, 75th interquartile) for the SPECS group (82.6%; 70.8%, 92%) were significantly higher than the CT group (80%, 68.3%, 88%) {p= 0.03}. The MSP and ISP were similar in both males (n= 279) {78.3%; 70%, 88%) and females (n=252) {80%; 70%, 90%)[p= 0.218].

Sub-group analysis showed that the MSP and ISP of mini-CEX for AY 2013/14 were similarly higher in SPECS group {71.6% (68.3%, 78%)} than CT group {70% (65%, 76.3%)} (p= 0.029). For AY 2014/15, the MSP and ISP of micro-CEX were also significantly higher in the SPECS group {92% (88%, 96%)} than CT group {88% (80%, 92%)} (p< 0.001).

Conclusion

The mini-CEX and micro-CEX performance is better with SPECS teaching than conventional teaching. The CEX scores are not affected by gender.

D2027

WHAT DO RESIDENCY PROGRAM EXECUTIVES REALLY WANT? - A LEARNING NEEDS ANALYSIS SURVEY

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Aims

Program Executives (PEs), also known as Program Coordinators, are frontline representatives and essential support staff of a residency program. They need to possess not just program-based knowledge, but also administrative, managerial, leadership and other soft skills to manage their program effectively and professionally. The SingHealth Graduate Medical Education Office currently provides knowledge-based training related to program management. Unlike comprehensive training development programs for PEs in the US, there is currently no specific training program in Asia Pacific to equip PEs with soft skills. This study aims to identify the most important soft skills needed as perceived by PEs which will subsequently aid in the design of a training program.

Methods

We conducted an online Learning Needs Analysis Survey for all SingHealth PEs. Seven topics for training were proposed by the workgroup following a brainstorming session using informal feedback from PEs. The participants were asked to rank the topics in order of importance and were encouraged to identify additional topics which they felt should be included in the training. Participation was voluntary and all responses were anonymized.

Results

Fifty-four out of 60 PEs (90%) participated in the survey. The topics are ranked as follows: 1. How to Manage Your Faculty and Residents, 2. Interpersonal and Communication Skills, 3. Communicating Effectively with Your Team Mates, 4. Time Management, 5. Tips on Breaking Bad News to Residents, 6. Presentation Skills, and 7. Professionalism. Additional topics suggested by the PEs are Motivation, Leadership Skills and How to Handle Crisis at Work.

Conclusion

PEs chose the topics in soft skills training they perceived as important in helping them manage their program better and develop themselves professionally. We believe that by giving them the opportunity to rank and suggest topics, we can generate greater buy-in and engagement. We will proceed to design a training program for the PEs based on this Learning Needs Analysis.

PERCEPTION OF ANESTHESIOLOGISTS' ROLE BY MEDICAL COLLEAGUES

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Aims

The study aims to determine the level of perception of physicians towards their Anesthesiology colleagues.

Methods

A cross-sectional descriptive study using a piloted questionnaire approved by the Ethics and Review Board involved 135 consultants from the different departments of the University of Perpetual Help Dalta Medical Center. The survey tool focused on perceptions medical of colleagues: 1) clinical responsibilities of Anesthesiologists; 2) work ethic of Anesthesiologists; and 3) medical skills and enriching medical education of Anesthesiologists. Data was analyzed using STATA 10 Biostatistical software and descriptive statistics.

Results

Majority of the respondents showed a good perception of the competence of Anesthesiologists at the UPHDMC, despite studies revealing poor knowledge on the role of Anesthesiologists by colleagues. In terms of clinical responsibility, all respondents (100%) agree that the Anesthesiologist's work is primarily focused in the operating room, involvement in teaching (100%) and research (97%). 97% perceive that pain management is part of their role. 48% do not view them as active in the ICU and doing clinical consultations.

Conclusion

Majority of the physician-respondents have good perception on the clinical responsibilities, work ethic, medical skills and enriching medical education of Anesthesiologists: The results open future research initiatives to better understand peer dynamics in hospital settings.

E-POSTER PRESENTATION – SESSION 5A

STATION 1

D2029   **TBL as a Continuous Assessment Tool in Neurosciences Block in a Hybrid PBL System**
Lynn Alkhatib, Saudi Arabia

D2030   **Examiners' and Students' Perception of Basic Clinical Skill OSCE in Two Serial Times**
Yoga Devaera, Indonesia

D2031   **A Prospective Pilot Study Evaluating "Shockable Rhythm-Advanced Cardiac Life Support Role Play Exercise"**
Sriwanna Manatiwson, Thailand

D2032   **A Therapeutic Drug Monitoring Learning Experience Implemented as a Problem Based Learning Instructional Method**
Ruki Wijesinghe, Singapore

D2033   **Students' Perception of Clinical Teaching by Junior Doctors**
Goh Sok Hong, Singapore

D2034   **A Model Programme to Learn Essentials of Paediatric Emergency for Primary Care Physicians – A Mid-Term Evaluation**
Tsunetoshi Mogi, Japan

D2035   **Efficiency: Perceived Barrier to Interprofessional Education**
Ong Sik Yin, Singapore

D2036   **The Comparison of Depression Degree Between Medical Faculty Students Grade I Until Grade IV Universitas Islam Bandung Academic Year 2011-2012**
Rio Dananjaya, Indonesia

STATION 2

D2037   **Students' Perception of the Education Environment in the Faculty of Allied Health Sciences, University of Peradeniya**
Thasanthan Loganathan, Sri Lanka

D2038   **The Fifth-Year Medical Students' Perceptions About Self-Study**
Sarush Nimmankiatkul, Thailand

D2039   **Improvement in Student Feedback Scores in Undergraduate Orthopaedics - What Works?**
Chee Yu Han, Singapore

D2040   **Evaluating the Predictive Value of Saudi Admission Parameters on Student Performance in Medical School**
Abdulaziz Barakat, Saudi Arabia

D2041   **The Professional for Tomorrow's Healthcare – A Model for Healthcare in the 21st Century**
Winnie Teo, Singapore

D2042   **Innovation in Medical Education: Applying Self-Monitoring Measure in High Stakes Testing and Medical Talent Selection**
Brad Wu, United States of America

D2043   **Bridging the Gap Between Clinical Practice and Community Service in Young Minds - A Thematic Experience**
Anbarasi K, India

D2044   **Development and Assessment of an Interactive Neurolocalisation e-Learning Tool**
Sheila Srinivasan, Singapore

STATION 3

D2045   **Learning Expectation of Stage 2 Medical Students on Simulation Training Sessions in Newcastle University Medicine Malaysia (NUMed)**
Judy Bien, Malaysia

D2046   **Common Barriers Affecting Clinical Skill Acquisition for the Intimate-Area Examination and Sexual-History Taking, Among Final-Year Medical Students at a Medical Colleges, Saudi Arabia**
Noor Al-Zahrani, Saudi Arabia

D2047   **The Use of Flipped Classroom Model in a Large Lecture Group to Strengthen Learning Experience in Nursing Education**
Siah Chiew Jiat, Rosalind Singapore

D2048   **Can Participatory Action Research be Used as a Tool to Improve Nursing Students Performance**
Tanushri Roy, Singapore

D2049   **Effects of Basic Psychological Needs Satisfaction in Medical Students on Student Engagement**
Yu Ji-Hye, South Korea

D2050   **Big Data Analysis of the Use of Open Educational Resource on a Youtube Dedicated Channel**
Kumar Aravind, Singapore

D2051   **Use of a Standardized Patient Satisfaction Questionnaire to Assess the Quality of Care Provided by Family Medicine Residents During Residency Continuity Clinic, in National Healthcare Group Polyclinics.**
Meena Sundram, Singapore

D2052   **Correlation Between Students' Learning Style and Video Perception on Achievement in Objective Structured Clinical Examination**
Wenny Waty, Indonesia

D2053   **PharmaCASES: Clinical Applications and Scenarios through Experiential Learning System in Pharmacology for Medical Practitioners**
Judy Sng, Singapore

D2054   **Power and Conflict in Interprofessional Education Articles, 1954-2013: A Telling Absence**
Elise Paradis, Canada

D2055   **Development of A Kidney Biopsy Simulation Training Module in a Nephrology Fellowship Program**
Behram Ali Khan, Singapore

D2056   **Mental Health Issues; A Hidden Obstacle for Medical Education**
Thilini Agampodi, Sri Lanka

D2057   **The Use of the Conscientiousness Index from the Perspective of the Programme Administrators**
Selvia Kosim, Singapore

D2058   **EMQ Using Mobile Devices: A Further Development of Tag Test using Modified Extended Matching Question for Anatomy Courses**
Fundhy Sinar Ikrar Prihatanto, Indonesia

D2059   **Developing a CPD Program (Ver. 1) of Ophthalmology for Primary Care Physicians**
Hiroaki Kato, Japan

D2060   **"Micro-CEX": A Quick and Feasible Ophthalmology Assessment Tool in Medical Undergraduates to Replace Mini-CEX?**
Yip Chee Chew, Singapore

D2029

TBL AS A CONTINUOUS ASSESSMENT TOOL IN NEUROSCIENCES BLOCK IN A HYBRID PBL SYSTEM

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Aims

Neuroscience (NS) is perhaps one of the most intriguing yet challenging areas of study in medical school. NS at Alfaisal University in Riyadh, KSA is delivered as an integrated block in which various disciplines are taught in a ten-week span. Stemming from the belief that proper assessment is just as crucial as a proper syllabus in a curriculum is, we introduced an innovative idea in the Neuro-Science Block (NSB). The idea was to introduce Team Based Learning (TBL) as a means of continuous assessment and learning, parallel with the original running PBL system. Previously, the block's assessment consisted of a midterm exam in the middle of the block, a final exam at its end, and the remaining for PBL and professionalism. The aim of this study is to investigate the students' perspective on having TBL in their NSB instead of the midterm exam. Furthermore, the study also aims to objectively evaluate any measurable effect of the TBL component on the students' preparation and in-course performance.

Methods

First, we conducted a cross sectional study. Data was collected through anonymous, paper-based questionnaires administered to the batch of second-year medical students. The questionnaire was laid-out in a categorical fashion, each category of which prompted a set of relevant questions and bore a 5-point Likert scale. The other component of the study included an objective comparison between the current batch of students' grades breakdown at the end of the new TBL-NSB and those of the previous year's batch, who did not have TBL as part of their block. Any significant difference between the two batches' grades shall be attributable to the introduction of TBL in the new NSB curriculum since all other factors are constant including the syllabus, teaching faculty and other learning resources.

Results

(143) students responded, 57% (n=82) of which were males. The survey evaluated TBL outcomes in terms of three levels of potential educational benefits- as a learning tool, a professional development tool, and an exam preparatory tool; the students' average self-rating was (3.36+0.09), (3.23+0.092) and (3.34+0.010) respectively. The majority of responses leaned towards affirmation of pro-TBL outcomes in most items of the three categories. Results of our study showed that students' cGPA has a significant impact on whether they believe that TBL was an effective tool in improving their learning (F=5.498, P<0.01) and professional development (F=4.773, P<0.01) such that weaker students tend to better appreciate the importance of TBL in those domains. Moreover, it was noted that students with higher cGPAs prefer TBL to have higher assessment weightage (P value= 0.005). Data analysis from the grades of both batches revealed a significantly higher performance in the new batch of students who took the TBL-NSB over those who took the conventional non-TBL one.

Conclusion

TBL was found to be a satisfactory learning, personal development and exam preparatory tool as demonstrated by subjective and objective evidence. We hence highly recommend the implementation of continuous assessment regimes like TBL in all blocks as they carry a wealth of value in multiple facets of educational outcomes.

D2030

EXAMINERS' AND STUDENTS' PERCEPTION OF BASIC CLINICAL SKILL OSCE IN TWO SERIAL TIMES

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Aims

The Objective Structured Clinical Examination (OSCE) has been a popular assessment tool for medical students since its first introduction 4 decades ago. Faculty of Medicine of Universitas Indonesia began using OSCE since several years ago, one was used to assess students' performance in basic clinical skills of for pre-clinical students before they entered clinical rotation. This study describes students as well as examiner perspectives' on the organization of above mention OSCE between 2 different times before and after our new building were being used.

Methods

We evaluated the OCSE of basic clinical skills conducted at year 2012 and 2014 from students and examiners point of view. By year 2014 we already used our facilities. A self-administered questionnaire was completed anonymously by each students and examiners immediately the exams ended. Main outcome measures were students and examiners perception of examination attributes: quality of exam organization, exam material, tools and equipment and patient stimulation performance. Likert scale of 4 was used to express opinion (strongly agree, agree, uncertain, disagree).

Results

There were 200 students fulfilled the questionnaire of 2012 OSCE (OSCE 2012) and 174 students of 2014 (OSCE 2014), 101 and 195 examiners respectively. Most of students and examiners (88-97%) were satisfied with both OSCE organization and exam material. Students rated lower satisfaction for quality of tools and equipment (75% in OSCE 2012 and 78% in OSCE 2014) than examiners (87% and 84% respectively). Only 65% students in OSCE 2012 and 72% in OSCE 2014 said the patient stimulation was good, but most examiners (100% and 95% respectively) satisfied with patient stimulation.

Conclusion

Overall OSCE organization and exam material were considered good. Students rated lower satisfaction score than examiners with consistent improvement score with time. Improvement with times was not observed in examiners perception. Quality of tools and equipment and patient stimulation need to be improve.

D2031

A PROSPECTIVE PILOT STUDY EVALUATING "SHOCKABLE RHYTHM-ADVANCED CARDIAC LIFE SUPPORT ROLE PLAY EXERCISE"

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Aims

"Shockable Rhythm - Advanced Cardiac Life Support (ACLS) role play Exercise" is developed by the collaborative of the project to increase production of rural doctor (CPIRD) ministry. Its feature is role play and advice followed ACLS 2010. It was added into the ordinary emergency medicine scheme for the 6th year medical students. Because this is the first time of the role play exercise applying at Buddhasothorn Hospital Medical Education Centre, the researcher concerns "Does it increase student's performance significantly?" or "It is only a student's burden."

Objective:

To evaluate the performances of medical students after be applying the "Shockable Rhythm - Advanced Cardiac Life Support Role Play Exercise"

Methods

The ordinary ACLS teaching in Emergency Medicine scheme for the 6th year medical students includes ACLS algorithms review, training of defibrillator use, and drilling of mixed shockable - non shockable rhythm ACLS scenario with manikin. During 9 February to 8 March 2015, the 12 6th year medical students studied the ordinary ACLS program then the first performance evaluation* was done by themselves and by Instructors (pre-scores). After that the students received the "shockable Rhythm ACLS role play exercise", played and video were recorded by them. Then, the students took the ACLS scenario exam, which consisted of shockable and non-shockable rhythm. Their performance evaluation was done again by themselves and by Instructors (post-scores). And the benefit of the "role play and video recording" activity was asked. All opinions were scored from 0-10. (0 is performance be not shown and 10 is performance be shown perfectly)

The mean differences of post- and pre-scores were evaluated to answer the research question and represent the feasibility to apply this role play exercise into the medical students' program. The standard statistic program, ranksum test was used to evaluate these scores. (*The performance evaluation topics are shown in the result.)

Results

The evaluation by the Instructors; the mean differences of performance evaluation are (1)correctness follow ACLS algorithm is+2.00 (SD1.04), (2)defibrillator usage correctness is +1.92(SD1.16), (3) team work skill is +1.33(SD1.30), (4) team communication skill is +1.83(SD0.58), and (5)confidence to exam is +1.67(SD0.75). The evaluation by the students; the mean differences of (1)correctness follow ACLS algorithm is +1.17(SD0.83), (2)defibrillator usage correctness is +1.33(SD1.23), (3) team work skill is +1.58(SD0.99), (4) team communication skill is +1.17(SD0.94), (5)confidence to exam is +1.00(SD1.13), and (6) confidence to use in real situation is +0.92 (SD1.08). (p-value < 0.05, all topics). The students mentioned to the benefit of the "role play and video recording" activity, it is joyful and help to increase team work skill.

Conclusion

In conclusion, after apply the "Shockable Rhythm-Advanced Cardiac Life Support Exercise" in this medical student's program, It significantly increase the performances of medical students.

A THERAPEUTIC DRUG MONITORING LEARNING EXPERIENCE IMPLEMENTED AS A PROBLEM BASED LEARNING INSTRUCTIONAL METHOD

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Aims

To evaluate the impact of a novel therapeutic drug monitoring (TDM) experience implemented as a problem based learning (PBL) instructional method for six, third year bachelor of pharmacy students during a 6-week hospital rotation. The intended learning outcome for the students were to develop skills required to confidently and correctly interpret serum concentration results of a drug based on a genuine understanding of its disposition and contributory external factors rather than simply reacting to the drug serum level reported by the laboratory.

Methods

A trained PBL tutor effectively educated the students on the PBL process prior to allowing students take on the assigned task. A factual problem of particular drug serum samples being dispatched to off-site laboratories for processing and the resultant delay in therapy modification was presented as the case study. Students were asked to formulate a hypothesis by discussing the facts presented and identify areas for further investigation. They were to appoint a scribe, construct a list of questions to understand the problem better, create an action plan with resources to be used and assign themselves to be responsible for each of those actions. As a more holistic experience, a discussion with a phlebotomist and a visit to the hospital laboratory was facilitated by the tutor.

A needs analysis questionnaire was utilized to determine the existing level of knowledge and confidence in their ability to understand and interpret therapeutic drug levels. A post assessment qualitative survey measured a more precise definition of TDM, why it is necessary to carry out TDM on certain drugs, students' level of knowledge of TDM, their confidence in their ability to understand and interpret drug levels and the helpfulness in utilizing a PBL format for learning TDM.

Results

The needs analysis questionnaire results indicated the existing level of knowledge as being 'none' or 'some' and provided guidance for possible concepts to be included in the PBL tutorial sessions. The post assessment survey results showed that they were able to understand and interpret drug levels 'confidently' or 'very confidently.' Students reported that the discussion with the phlebotomist and the visit to the laboratory created an awareness of background information needed and the possible factors influencing the timing of blood draw, storage and transport of the blood sample.

Conclusion

PBL is a resource intensive, self-directed learning strategy that requires careful planning together with committed educators for successful implementation [1]. Prior to this exercise, third year bachelor of pharmacy students have not been exposed to TDM or the PBL process. Nevertheless, the use of this innovative TDM teaching concept outside of the classroom setting was successfully studied using a PBL format. The participating students reported an increased level of knowledge, problem solving skills and confidence in interpreting serum drug levels. Future implementation of a TDM learning experience utilizing a PBL process during the hospital rotation may be beneficial for training third year pharmacy students.

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D2033

STUDENTS' PERCEPTION OF CLINICAL TEACHING BY JUNIOR DOCTORS

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Aims

Singapore's postgraduate medical education went through a transition in 2010, moving away from the British housestaff model to the American Competency-based residency model. Teaching was one of the core competencies emphasized by SingHealth residency programmes. This study sought to track medical student perception of changes in the culture of teaching amongst junior doctors from various specialties over the years.

Methods

A 19-item Likert-type questionnaire consisting of three domains - (1) quality, (2) frequency and (3) teaching environment - was given to all second year Duke-NUS Medical students at the end of each clerkship from Academic Year (AY) 2009-10 through 2013-14. Students rated the junior doctors whom they encountered in their most recent clerkship on a 5-point scale (1=lowest and 5 =highest).

Results

Analysis of individual specialty revealed significant increases in student ratings on all items in all domains for Medicine, OBGYN, Pediatrics and Psychiatry clerkships. Overall mean student ratings for quality increased from 3.12 (SD: 0.72) in AY 2009-10 (before residency) to 3.74 (SD: 0.71) in AY 2013-14 (after residency). Similar increases were see in frequency of teaching (2.66 (SD: 0.83) to 3.39 (SD: 0.82)) and teaching environment (3.21 (SD: 0.76) to 3.84 (SD: 0.72)). Ratings for Surgery clerkship increased to a lesser extent over the years. In addition, it was also observed that ratings varied across clerkships at the beginning of the study but converged to reach similar ratings by the end for the study for all three domains.

Conclusion

Findings from this study indicate that a positive shift in teaching culture was evident with the transition in Singapore's post-graduate medical education. We hope to continue to work with various residency programme to improve their "Residents as Future Teachers" programme through Academic Medicine Education Institute (AMEI) collaboration.

D2034

A MODEL PROGRAMME TO LEARN ESSENTIALS OF PAEDIATRIC EMERGENCY FOR PRIMART CARE PHYSICIANS - A MID-TERM EVALUATION

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Aims

In Japan, a number of new approaches in training primary care physicians are currently being developed. However, despite these advances, many doctors are still sometimes forced to see paediatric patients without any formal training. Through informal interviews with these undertrained physicians, we identified unmet needs regarding education in managing paediatric patients, particularly in emergency situations.

In 2009, we developed a 6-hour, case-based, off-the-job training programme on paediatric emergency medicine for primary care physicians in Aso Iizuka Hospital. The programme consisted of a 15minute lecture followed by a 30-min role-play session focusing on the following themes: (1) triage, and management of patients with (2) fever, (3) febrile convulsion (FC), (4) wheezing, (5) abdominal pain, and (6) nausea and vomiting. At this point, we have held this programme over 50 times, at 30 institutions throughout Japan, for 1270 healthcare professionals.

The aim of this study was to evaluate this programme from a mid-term perspective.

Methods

In 2014-2015, we conducted 7 focus groups at 6 institutions to evaluate this programme: (1) 4 participants on December 9, 2014; (2) 7 participants on December 11, 2014; (3) 6 participants on June 15, 2015; (4) 6 participants on June 23, 2015; (5) 9 participants on July 6, 2015; and (6) 14 participants on July 7-8, 2015. All focus groups were convened at least three months after completing the programme. We asked participants how the programme influenced their performance in daily clinical practice. All discussions were audio-recorded and transcribed verbatim. Data were read iteratively by the first author (TM) and analysed qualitatively. The last author (HN) read the transcripts separately and discussed the identified themes with TM. Ethical approval for this study was granted by the ethics committee at Kyoto University.

Results

We found that clinical performance of individual participants changed; for example, one reported that, "I stopped ordering a drip infusion for patients with abdominal pain suspected of having constipation." Some participants became more confident in treating paediatric patients, particularly in terms of explaining situations to their patients and the patients' guardians; for example, one reported that, "I'm starting to feel like parents (of paediatric patients) are listening to me properly". As institutions, those who completed this programme came to use the same "language", which improved inter-professional and attending-resident communication; for example, one reported that, "Now I need less time to consults with supervisors (in paediatrics)." However, we did observe some institutional cultural conflict in introducing the programme.

Conclusion

We developed a model Continuing Professional Development (CPD) programme in paediatrics emergency for primary care physicians. While our programme did affect clinical performance of participants, standardisation might cause contextual conflicts in their clinical practice.

EFFICIENCY: PERCEIVED BARRIER TO INTERPROFESSIONAL EDUCATION

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Aims

There has been increasing advocacy for interprofessional education (IPE) and learning in the clinical setting to foster higher quality patient care. Literature has identified the importance of informal learning and positive role models in the education of pre-professionals. Hence, healthcare professionals with educator roles will have an influential impact on the professional socialization of pre-professionals and it is important to understand their attitudes towards IPE. In our study, we aimed to ascertain attitudes of healthcare professional educators towards IPE and investigate the possible attributes that might influence their attitudes.

Methods

We studied 55 healthcare professionals from medical, nursing and allied health who were attending an interprofessional Health Professions Educators' Essentials course. The participants comprised active ground clinicians who also held teaching duties as faculty of pre-professional and early graduate learners. We administered two attitudinal scales: 1) the 14-item Attitudes Towards Health Care Teams Scale (ATHCTS), and 2) the 15-item modified Readiness to Interprofessional Learning Scale (RIPLS), which was adapted from the original 19-item Parsell & Bligh version by exclusion of items from the "Scales and Responsibilities" factor.

Negatively worded items on both scales were reverse-coded such that higher scores on the 5-point Likert scale indicated good attitudes towards IPE. Principal components analysis with varimax rotation was performed on the attitudinal scales to determine the factor structure. We calculated total and factor mean scores for both scales. Factor scores and correlation between factor scores were computed for comparison.

Results

Overall, 34 respondents of a possible 55 completed the survey, giving a response rate of 62%. Among the respondents, 23 (68%) were female and 11 (32%) were male. Majority of the respondents were involved in teaching medical students (53%) and some of the respondents (18%) were involved in educating both medical and nursing or allied health students. More than half the respondents (59%) had 5 or less years of experience as healthcare professional educators.

Total mean (SD) scores of ATHCTS and RIPLS were 3.81 (0.90) and 4.02 (0.79) respectively, suggesting that the respondents generally had positive attitudes towards IPE. Exploratory factor analysis yielded four factors: team value/team efficiency (ATHCTS), and teamwork & collaboration/professional identity (RIPLS). For factor scores, respondents endorsed lower scores on items relating to "team efficiency" (factor mean = 3.45) compared with other three factors (factor means = 3.87 to 4.08). One of the items "developing an inter-professional patient care plan is excessively time consuming" had a low mean of 2.79 which suggested that healthcare professional educators valued efficiency over interprofessional collaboration. Correlation analyses further confirmed that the "team efficiency" factor on the ATHCTS correlated poorly with the other three factors (r=-0.05 to 0.37).

Conclusion

Generally, health care professional educators held positive attitudes towards IPE in terms of team value, teamwork and collaboration, and professional identity. However, they viewed that IPE could compromise team efficiency which may impact patient care. Healthcare organizations may need to look into initiatives to address issues influencing efficiency to promote wider implementation of IPE in the clinical setting.

D2036

THE COMPARISON OF DEPRESSION DEGREE BETWEEN MEDICAL FACULTY STUDENTS GRADE I UNTIL GRADE IV UNIVERSITAS ISLAM BANDUNG ACADEMIC YEAR 2011-2012

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Aims

Medical education which is now using problem base learning (PBL) approach makes students give more effort to learn the lessons. This condition can trigger stress and depression. This research was conducted to assess the percentage of depression degree in general and base of sex, and to compare the depression degree between medical faculty students grade I until grade IV Universitas Islam Bandung Academic Year 2011 – 2012.

Methods

This research method is an analytical method with cross sectional study design. The subjects were medical faculty students grade I to grade IV Universitas Islam Bandung (UNISBA) academic year 2011-2012. This research was conducted in june 2012 and to assess the depression degree using Beck Depression Inventory (BDI) questionnaire which contain 21 questions to the entire population of students of the medical faculty UNISBA. The data was analyzed by using univariate analysis to compare depression degree, students grade, and sex, and bivariate analysis (Chi Square Test) to assess the relationship between depression degree and students grade and sex. The data was analyzed by using software SPSS for windows version 17.0 with confidence level 95% and p-value less than 0,05.

Results

The highest incidence of mild depression was at students grade I (45.2%), moderate depression was at students grade II (5.9%), and severe depression at students grade III (6.7%). Significant comparison occurs between the students grade I and grade III (P-value = 0.005). Women have a greater percentage of the incidence of depression than men, and 6.7% students with severe depression was entirely female.

Conclusion

Student grade I and women students have more risk of developing depression.

STUDENTS' PERCEPTION OF THE EDUCATION ENVIRONMENT IN THE FACULTY OF ALLIED HEALTH SCIENCES, UNIVERSITY OF PERADENIYA

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Aims

Education environment is the most important factor determining successful undergraduate education. Students' perceptions are useful to evaluate the education environment and to improve the quality of undergraduate programmes. The aim of this cross sectional descriptive study was to assess students' perception of the education environment at the Faculty of Allied Health Sciences (FAHS), University of Peradeniya (UOP) and to find out whether the perceptions are the same in both genders and those following different study programs.

Methods

The education environment of the FAHS was studied using the validated Dundee Ready Education Environment Measure (DREEM) questionnaire. The questionnaire were administered to 126 final year undergraduate students of the FAHS enrolled in the Radiography, Physiotherapy, Medical Laboratory Sciences, Nursing and Pharmacy degree programs. Participation was voluntary and anonymous. SPSS 17 and other statistical tests were used to analyze the data and the results were compared with similar studies.

Results

The DREEM questionnaire was completed by 120 (95.4%) students of the FAHS. Among respondents, there were 44 males (34.92%) and 76 (60.32%) females. The findings of the study indicated that the DREEM mean score of the FAHS students was 113.78/200 which indicated a more positive than negative education environment. However, the highest and lowest mean scores were reported by the Radiography students (120.35/200) and Medical Laboratory Sciences students (110.44/200) respectively. Students' perception of learning was more positive (27.51/48), students' perception of teachers was moving in the right direction (25.33/44), students' academic self perception was more on the positive side(18.94/32), students' perceptions of atmosphere also showed a more positive attitude (25.94/48) and students' social self perception was not too bad (16.07/28). Perceptions among male and female students were significantly different ($p < 0.05$).

Conclusion

The study suggested that in spite of many hardships, the students of FAHS, UOP which is a relatively new institute perceived the education environment more positively than negatively. The deficiencies pointed out need to be explored further and addressed during the proposed curriculum revision. Such acts will facilitate the move of FAHS in a positive direction.

D2038

THE FIFTH-YEAR MEDICAL STUDENTS' PERCEPTIONS ABOUT SELF-STUDY

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Aims

Clinical medical students usually face a challenge in transitioning to clinical years due to the learning of which relies heavily on self-studies. Supports from schools could facilitate students' coping to the change. There is, however, little evidence regarding the self-studies in undergraduate medical education. Our objectives are to explore the medical students' perceptions of self-studies and their practices.

Methods

Fifth-year medical students at the Faculty of Medicine Ramathibodi Hospital (Mahidol University, Bangkok, Thailand) completed self-administered questionnaires which composed of: 1) attitudes toward self-study 2) methods and modalities used and 3) motivations.

Results

Sixty-two out of 176 (35.2%) students participated. Thirty-seven (59.7%) were female and the average GPA was 3.26. Most students agreed on the importance of self-studies, both as medical students and as doctors after graduation (88.7% and 98.4% respectively). Greatest amount of time, or 6-10 hours per week, was spent reviewing shared examination questions (51.6%), and reading internet-based resources (41.9%). Google was the most popular search engine (83.9%), followed by MedScape (82.3%) and UpToDate (64.5%). Fewer amounts of time, or 1-5 hours per week, was used for reading textbooks (58.1%), discussing with friends (56.5%) and senior students (48.4%), and studying e-learning materials (56.5%). Time for self-studies was usually in the late evening (37.1%) and before bedtime (30.6%). Learning methods were influenced by seniors' advices (64.5%) and friends' advices (50%). Preferred types of media were images (79.0%), video clips (62.9%), charts (48.4%), and cartoons (37.1%). Common motivations were preparing case-based discussions, getting ready for examinations, feeling lack of knowledge, and available types of media interested. Inadequate free time, lack of time management skill, and lack of motivation were reported as obstacles.

Conclusion

Surprisingly, many medical students used shared examination questions, which were considered controversial. Providing more question banks and exercises might be potential alternatives. Moreover, substantial numbers of students studied internet-based resources by themselves; therefore, guidance on literature searching and adequate internet access could be supportive measures to promote self-studies.

IMPROVEMENT IN STUDENT FEEDBACK SCORES IN UNDERGRADUATE ORTHOPAEDICS- WHAT WORKS?

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Aims

The development and organisation of a Year 3 undergraduate orthopaedics curriculum that require clinical skills acquisition can be challenging. Using experience gained from years of undergraduate teaching, we present our new approach and outcomes from student feedback.

Methods

This study was undertaken in the National University of Singapore medical school that oversees a cohort of 250 students per year. Using student-reported feedback scores over a 4-year period, comparative analyses were made between academic years 2011 till 2013 and 2013 till 2015. Qualitative feedbacks were also collated and analysed. During this period, several changes to the delivery of teaching, programme structure, student-centered teaching and regular timely feedback sessions with students were introduced or redesigned.

Results

Average feedback scores significantly increased from 3.93/5.0 in 2011 to 4.45/5.0 in 2014 (+10.4%). We found that the main contributors to an improvement to feedback scores were:

1. Enhanced introductory briefing and feedback mechanisms:
    a. Direct and regular student contacts and feedback sessions between students and the clinician programme director and assistant/administrative staff.
    b. Clear instructions on learning objectives at introductory briefing session vs purely circulating a list of 'must-see-must-know' condition.

2. Greater emphasis on pre-reading materials in a flipped classroom teaching model through making the Clinical Orthopaedics Examination Skills, CORES video and webcast of previous lectures on the University's online management system accessible to students 2 weeks before course commencement.

3. Ambulatory (outpatient clinic) teaching in using well-selected patient tailored to learning objective instead of randomly-selected patients used previously. Structured and dedicated meetings with students at the start of a 4-week orthopaedic attachment include detailing the objectives, time-table and structure of the attachment. This is followed by a mid-posting review and feedback session; and a final debriefing session 2 days before the end of attachment. The students were then given the opportunity to input their feedback scores immediately after the session.

Conclusion

Advancement of teaching methodology in musculoskeletal/orthopaedics teaching to medical students leads to improved feedback scores. Timely improvisations on programme structure based on students' needs have shown to improve student feedback. This reflects the effectiveness and student acceptance of the restructured programme. This study concludes that clear guidelines and adequate feedback sessions help both students and the educators in teaching in an effective manner.

EVALUATING THE PREDICTIVE VALUE OF SAUDI ADMISSION PARAMETERS ON STUDENT PERFORMANCE IN MEDICAL SCHOOL

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Aims

Medical school admission requirements is an ever-growing topic on which the literature is voluminous. Scrutiny of applications has become very rigorous due to the increasing number of outstanding applicants which is becoming quite a challenge for admission decision makers. Hence, several pre-admission tools have evolved over time, in attempt to assess various critical aspects of required cognitive and non-cognitive domains. In Saudi Arabia, medical schools depend on a combination of admission parameters in their student selection. Main admission parameters considered are the cumulative high school average, National Achievement Test (NAT, locally known as Tahsili), General Aptitude Test (GAT, locally known as Qudrat) and English proficiency exams. The main goal of this study is to assess the predictive value of GAT and NAT on the academic performance of the students using the cGPA and the national Progress Test scores as indicators.

Methods

We carried out this study in the college of Medicine at Alfaisal University. In order to test this hypothesis and depict how far it applies, we used the applicants' admission scores of the GAT, NAT, and high school average -from the previous six academic years- and compared that with their cumulative Grade Point Averages and national Progress Test scores as performance indicators. We used Pearson's correlations in addition to multivariate linear regression tests to assess the predictive relationship between students' cGPA and progress test results against their performance in the GAT, NAT and high school grades. All the analyses were carried out using IBM SPSS software, version 20. A (p value) of <0.05 was set to be significant.

Results

Our findings support the current literature in that the Achievement test is in fact a positive predictor of student performance in preclinical years when compared to the cGPA; however it was not found to be predictive of performance in clinical years. Surprisingly, our findings suggest that the aptitude test is negatively predictive of the cGPA in preclinical years; however, it was not able to predict performance during clinical years. High school grades, on the other hand, were not predictive of performance at either stage when compared to the cGPA. Neither of these parameters were found to be predictive of performance through the PT. All aforementioned findings are statistically significant to ($p<0.001$).

Conclusion

Several admission parameters were found to be significantly correlated with the cGPA, thus, we recommend to utilize these parameters in Alfaisal's admission criteria, in order to predict and select students with higher chances of academically excelling in medical school, which will also help minimize the number of underperforming students. On the other hand, PT scores were only found to be significantly correlated with the cGPA. This confirms that the PT is an effective indicator of student progression at Alfaisal University.

D2041

THE PROFESSIONAL FOR TOMORROW'S HEALTHCARE - A MODEL FOR HEALTHCARE IN THE 21ST CENTURY

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Aims

Healthcare systems worldwide face unprecedented challenges in the 21st century. Many countries have embarked on healthcare reforms as current systems of healthcare delivery are unsustainable. Before reforms can be instituted, however, an understanding of key capabilities needed in the future is necessary. To address this, the National Healthcare Group (Singapore) sought views of educators from various healthcare sectors on the capabilities needed in a healthcare worker of the future.

Methods

Small group discussions were held with various stakeholders in the National Healthcare Group (NHG) Singapore. These included educators (encompassing undergraduate, pre-professional, postgraduate and allied health education) and practitioners (clinicians, nurses, allied health professionals).

Participants were asked to list capabilities that would be important to function in healthcare in the future.

Results

The various capabilities were distilled to 5 components, which were similar to those in an equation developed by Sir Michael Barber, in 2009.

Sir Michael's equation summarized what a well-educated child in the future should learn: Well-educated = $E(K + T + L)$

where E = ethical underpinning; K= knowledge; T= thinking and L=leadership.

We felt that the Barber equation contained several concepts important in healthcare, and modified the equation for a Professional for Tomorrow's Healthcare to read:

$PTH = E[(K1+K2) \times F \times L]$

where K1 = core capability; K2 = systems capability; F= future-oriented thinking; L=leadership and E = ethical conduct and professionalism. The PTH is defined as anyone working in healthcare - front-line staff as well as operations, administrative staff.

There are a few aspects to the equation which are especially pertinent for the future. Knowledge has been organized into two components: while K1 comprises the knowledge, capabilities needed to perform one's job, K2 refers to competency in a team environment, in a system. This is in

recognition of the changing nature of healthcare practice which, in increasingly complex settings, is team-based. F stands for future-oriented thinking, and future-readiness. While knowledge is important, transformative and reflective thinking skills are important to enable the PTH to master and apply knowledge gained, and to engage in a continuous process of learning. Future thinking or anticipatory skill will enable the PTH to be mindful of the factors which may impact healthcare in the future, to be quick to prepare for imminent changes on the horizon.

L refers to leadership attributes, and the PTH is expected to be an influencer employing engaging leadership behaviors. E stands for ethical underpinning, and includes both ethical conduct, as well as professionalism.

The interdependency of these factors is underscored by their multiplicative relationship, as the absence of one factor would nullify the value of the entire equation. Moreover, the PTH equation is dynamic, as some capabilities might, over time, transition from F K1 or K2.

Conclusion

The PTH equation will be an invaluable aid to align education and service goals in healthcare institutions. The capabilities sketched out here, though not exhaustive, are an important part of an on-going discourse on articulating the important capabilities that will serve healthcare in the 21st century.

INNOVATION IN MEDICAL EDUCATION: APPLYING SELF-MONITORING MEASURE IN HIGH STAKES TESTING AND MEDICAL TALENT SELECTION

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Aims

Overview of Self-Monitoring Ability

Self-monitoring ability is an area of evaluation that is receiving increasing attention in both medical employment testing and the academic admissions process. Self-monitoring is a form of metacognition that lies in relatively uncharted territory between the domains of personality and ability, and current thinking suggests it is of great practical relevance, because it is likely to determine how a person perceives and manages risk. A person who jumps to conclusions on the basis of too little information (without recognizing they have too little information) could blindly make decisions without realizing what is unclear or missing. A person's perception of their own accuracy in decision making may also influence the degree to which they check their work for errors, and seek help and clarification in areas where they lack expertise.

Aims

The main purpose of the study is to investigate critical psychometric properties such as reliability, scalability, susceptibility to test strategies, response timing, and group difference. The presenters will also share their experiences in developing measures of self-monitoring ability in academic and organizational settings. In addition, plans and practical considerations with predictive validity of the self-monitoring measure will also be discussed.

Methods

In this study, self-monitoring ability is measured through embedding survey questions in the form of confidence ratings into cognitive ability tests. This requires test takers to indicate their level of confidence in their response to each item and allows objective comparison of an individual's ability and their insight into the accuracy of their decisions. The difference between candidates' response accuracy and their confidence level is termed "confidence-bias". Confidence-bias is quantified and analysed in conjunction with cognitive scores, response time and demographic data.

The analysis is based on data of a large-scale medical school admission test from 2013 to 2015.

Results

The analyses suggest that the self-monitoring measure:

1) is correlated with cognitive exam difficulty.

2) shows higher test-retest reliability when cognitive exam difficulty is held consistent rather than allowed to vary. The test-retest reliability is .80 when the same forms are administered (therefore with same difficulty), whereas the correlation is .55 when different forms are administered.

3) approximates normal distribution with confidence-bias scores centered around 0.

4) has floor and ceiling effect where candidates with near-perfect cognitive scores are unlikely to show high positive bias (i.e., over-confidence), and candidates with low cognitive scores are unlikely to show high negative bias (i.e., under-confidence).

5) is not susceptible to testing strategies such as random guessing, and that only less than .5% of candidates respond with identical confidence rating (e.g., 50% confident that the answer was accurate) on all cognitive items.

6) does not take significant amount of time (median = 5 seconds) to respond.

7) shows significant difference between gender for the entire population, though the difference is not significant for candidates whose cognitive test scores are at the top 10%. No significant difference is found among ethnic or social economic groups.

Conclusion

Current results indicate that with proper control in test difficulty, self-monitoring measure is psychometrically reliable, scalable, and could provide added value in the talent-selection process.

BRIDGING THE GAP BETWEEN CLINICAL PRACTICE AND COMMUNITY SERVICE IN YOUNG MINDS - A THEMATIC EXPERIENCE

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Aims

A real time assignment was introduced for undergraduate dental students of our institution to bridge the gap in worldwide dental curricula on providing oral health care needs for underserved and underprivileged population.

Programme objectives:

Emphasizing the barriers and stigma faced by underprivileged and underserved people to obtain dental treatment.

Creating a comfortable and respectful atmosphere within which the special group individuals can express their concerns about oral health care requests.

Need assessment, design and implementation of oral health care provision for the physically and socio economically challenged individuals.

Methods

Programme design:

A batch of 58 students were divided into 3 groups (Group A, B and C) and assigned to identify the oral care needs, and formulate the possibility of offering dental care to underserved fellow human. Students were informed about this plan at the entry level of internship and asked to proceed with the guidance of faculty who is volunteered.

Group A decided to serve for children in an orphanage, B for visually impaired students in a blind school and C for transgender individuals in a nearby locality. We obtained consent from the relevant authorities. Interteaching method of orientation courses were organized for each group to cater the communication skill and resource knowledge to develop a clear and defined plan to provide oral health care services. At the end of programme, students were instructed to participate in small group discussions about, what is their understanding? What challenged them most and why? What questions are still unanswered?

Problems identified:

Group A: Dental problems are often overlooked segment of the orphan society. The lower level oral hygiene is attributed to ineffective brushing techniques and lack of supervision.

Group B: Poor oral health, extensive gingivitis and traumatic injuries are the issues. Lack of ability to visually assess, understand and recognize early oral diseases were planned to sort out.

Group C: Hormone treatments taken by transgender affect oral health and are the main issue we addressed. Heightened risk of HIV in transgender women is considered for comprehensive care for HIV related oral diseases.

Results

1. Awareness about the importance of oral hygiene procedures and need for periodic dental check up was explained. The sample orphanage home was adopted by the students to provide oral care products and dental treatment.

2. A story based dental health manual was prepared in which auto biography of the tooth was scripted in Braille. Modified Boss brushing method was taught and dental treatment was provided for these children.

3. Though immediate dental problems are addressed for transgender individuals, effective preventive plans forwarded are not reached them as it is sensitive to the psycho-social issues.

Conclusion

The project generated an understanding of giving appropriate care and recognition to the diverse people comprising the society. The demand for services is often extended beyond what is typically distributed in usual practice and handling the situation was the major challenge. Their unanswered question is how to share the responsibility for providing oral health care access for them in coming decades.

D2044

DEVELOPMENT AND ASSESSMENT OF AN INTERACTIVE NEUROLOCALISATION E-LEARNING TOOL

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Aims

To develop a technically feasible multimedia e-learning tool to aid in the learning of neurolocalisation and assess learners' reactions to the tool.

Methods

Neurolocalisation is an essential skill for the clinical practice of neurology. It requires a systematic and organised approach to localising a pathological lesion based on neurological symptoms and signs. Developing this skill requires a good understanding of neuroanatomy and ability to integrate and interpret neurological examination findings, both of which requires frequent practice. Using cognitive theory and constructivism, we create an e-learning tool that allows learners of neurology to be engaged in an interactive method of learning neurolocalisation. It also forms a non-tutor led, self-directed method of learning that allows for frequent practice and revision of skills required for neurolocalisation. Conceptualisation and design of the tool involved input from both neurology specialists as well as neurology learners.

In this developmental phase of our research, we address the research question regarding technical and economic feasibility of development of an appropriate multimedia e-learning tool for neurolocalisation. The secondary aim in this phase is to assess learners reactions to the tool created. We aim to evaluate the tool for its interactivity, engagement and motivation as key elements and being cognizant of avoiding cognitive overload. Feasibility is assessed in terms of technical feasibility as neurolocalisation requires examination of multiple domains in neurology eg. tone, power, reflexes, cranial nerve examination, cerebellar examination and eliciting cortical signs. Thus far, there has not been a single tool that has been able to integrate the entire neurological examination and interpretation into a single module for learning. The tool we create is a cross-platform game-based application using Unity 5 freeware game development platform. It consists of the following components:

1. Revision module of the theory of approach in neurolocalisation using visual graphics and guided examples.

2. Interactive module consisting of stepwise clinical scenarios of increasing complexity. Candidates navigate history taking, physical examination steps and perform deductive elimination exercises based on information collated and organised. Immediate feedback is given in the form of game scoring followed by detailed explanations on scenarios completed.

3. Summary consisting of score report for the gamer, short algorithm based on each scenario, key learning points and tips.

Technical and economic feasibility was evaluated by the game developers and prototype testers in the form of qualitative feedback via individual questionnaire.

Evaluation of neurology learners, ie. junior medical doctors and medical students, reaction to the e-learning tool (KirkPatrick level 1) involves a 7 point Likert scaled questionnaire on aspects of interactivity, satisfaction, entertainment value, motivational value, appearance, effective use of multimedia components, navigational ease and usefulness.

Results

We find that it economically and technically feasible to create an elearning tool for developing neurolocalisation skills. Learners' reactions to the tool and learner engagementare being collated and will be further discussed.

Conclusion

It is technically and economically feasible to create an e-learning tool for developing neurolocalisation skills. Future research is aimed at determining the effectiveness of the tool for learning neurolocalisation amongst neurology learners.

LEARNING EXPECTATION OF STAGE 2 MEDICAL STUDENTS ON SIMULATION TRAINING SESSIONS IN NEWCASTLE UNIVERSITY MEDICINE MALAYSIA (NUMED)

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Aims

Simulation based learning is an effective method in enhancing students' clinical competence that provides a safe and realistic learning environment which integrates theory into practice [1]. This survey of 2nd year medical students was done to determine their learning expectations of the simulation training sessions (using a Laerdal SimMan 3G in a simulated healthcare setting) which are part of the 3rd year curriculum to allow the team delivering the training to better brief the students taking part.

Methods

A total of 132 undergraduate of Bachelor of Medicine/Bachelor of Surgery (MBBS) Stage 2 students will participate in the 3rd year Simulation Program during the 2015-2016 academic year. At the end of their second year of study, an online survey questionnaire, utilizing the survey monkey platform, was prepared and sent out via email to all the students. The participants were allowed two weeks to respond and participation in the survey was non-obligatory. The survey tool was presented with a close-ended question by using the categories provided [2]. There were fourteen statements pertaining to cognitive and technical skills, interpersonal and communication skills and strategies wherein a five-point Likert scale was applied to gather students' degree of agreement. The collected responses were ranked thereafter. Students were also allowed to omit any question which they did not feel comfortable with. The confidentiality of the responses was assured by the simulation team.

Results

Of the 132 students who were emailed the questionnaires, 66 students (50%) responded. Of the fourteen skill areas, the five which students most expected to learn about during simulation were: practical/technical skills (e.g. intubation, cannulation, catheterisation) (81.82% strongly agreed); how to approach a critically ill patient (78.79%); the use of bedside monitors and interpretation of their readings (74.24%); clinical reasoning (71%) and physical examination skills (65%). The five areas about which students had low learning expectations were: prescribing skills (56%), clinical pharmacology (55%), communications skills (50%), history taking (47%), physiology and pathophysiology (38%) and CPR skills (34%).

Conclusion

The MBBS students of NUMED expect highly to learn various practical skills during the simulation training sessions that will provide an extensive experiential learning opportunity which will prepare them in their future clinical practice. Students' expectations do not exactly match our instructional objectives and appears somewhat unrealistic in that students seem to expect to learn the full gamut of skills during these simulation sessions. In fact some skills are better learnt in other settings e.g. technical skills with task trainers and physical examination skills using real patients. This may create difficulty in learning. Therefore, modification of students' learning expectations will be encouraged by explicitly highlighting the objectives of the program in a structured briefing at the start of the simulation program which will include the description and content of the course, emphasizing patient management skills and basic procedures which we expect students to demonstrate by the end of the simulation program.

D2046

COMMON BARRIERS AFFECTING CLINICAL SKILL ACQUISITION FOR THE INTIMATE-AREA EXAMINATION AND SEXUAL-HISTORY TAKING, AMONG FINAL-YEAR MEDICAL STUDENTS AT A MEDICAL COLLEGES, SAUDI ARABIA

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Aims

The medical schools have a duty to ensure that the medical students have the appropriate clinical training and acquisition of important clinical skills. Intimate-area examinations and sexual-history taking are essential skills that medical graduates have to obtain to an appropriate level of knowledge, for the safety of patients' sexual and reproductive health. The objectives of this study were to identify the most common barriers affecting clinical skills acquisition, regarding intimate-area examination and sexual-history taking. This study also aimed to explore the students' perception which impedes and/or promotes the teaching and learning methods for the intimate-area examination and sexual-history taking skills.

Methods

A cross-sectional study was conducted among final-year medical students at king Saud University and Qassim University, College of Medicine, from September, 2014 to May, 2015. Male and female students were invited via email to complete a web-based questionnaire developed using surveymonkey.com, and to improve the response rate for the defaulters, paper-based questionnaire. The descriptive statistics were used for summarizing the study data. Pearson's chi-square test (χ^2) was used for quantifying the association between different variables.

Results

Out of 463 students, 234 (response rate=50.5%) completed the questionnaire, among them, 46.6% were males and 53.4% were females. Of these students, less than half (ranges from 12.8% to 41.9%), performed intimate-area examinations. Patient's opposite gender was the most significant barrier affecting intimate-area examination (57.9%) and sexual-history taking (46.4%). The study results showed that female breast examination was done three times more by female students (p=0.0001) whereas, male genital examination was performed two and a half times more by male students (p=0.0001). Other barriers like lack of supervision (39.8% vs. 39.5%, p=0.77) and lack of training (30.6% vs. 43.5%, p=0.11) reported by both male and female students, which were statistically not significant. Based on the students' views, sexual-history course (81%), peer-assisted learning (77.6%) and simulated patients (77.2%) were the most effective teaching strategies to be applied. However, small number (8.4% and 9.2%) of students was satisfied with the current teaching methods for intimate-area examination and sexual-history taking skills training, respectively.

Conclusion

Our study had identified that about more than half of the participants could not perform intimate-area examinations and one quarter could not take sexual histories. Patient's opposite gender was the most common barrier affecting intimate-area examination and sexual-history taking. The study findings suggest that sexual-history taking module followed by peer-assisted training and simulated patients would be the most effective instructional methods from students' point of view. Medical faculty members have to look at the appropriate instructional methods to train students for these important clinical skills.

D2047

THE USE OF FLIPPED CLASSROOM MODEL IN A LARGE LECTURE GROUP TO STRENGTHEN LEARNING EXPERIENCE IN NURSING EDUCATION

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Aims

With changing learning style and needs, the conventional approach of delivering information from a set of prepared notes to students in a large lecture group may become monotonous and repetitive. Bergmann and Sams (2012) suggested that flipped classrooms promotes better student-teacher interaction to improve understanding to students' emotional and learning needs. At this point in time, there is a lack in scientific research to establish the effectiveness of flipped classrooms in increasing student learning in nursing education. Therefore, the aim of this study employed the flipped classroom model in a large group lecture to strengthen the students' learning experience.

Methods

This was a pilot study conducted on year one undergraduates (n = 140) enrolled in Bachelor of Science (Nursing) in Alice Lee Centre for Nursing Studies. A total of three lectures at an hour each were conducted where students were required to watch a pre-recorded online presentations (Breeze lectures) and complete a short quiz before attending each lecture. The results of the quiz were subsequently evaluated by the lecturer to analyse the students' strengths and weaknesses of the topic. Different from other "flipped classroom" approach, the attendance for the three lectures were compulsory so that succinct concepts based on students' weaknesses (evaluated from the quiz results) were emphasized and reinforced to enhance understanding and application of theory into practice. At the end of the three lectures, students were invited to evaluate on the effectiveness of this intervention using a five questions semi quantitative Likert's Scale responses (1-strongly disagree, 2-disagree, 3-agree and 4-strongly agree) and two open-ended questions. A separate focus group interview was also conducted to evaluate the impact of this intervention on their learning experiences.

Results

The quantitative responses from the learners were analysed using descriptive statistics while the qualitative data were grouped into themes and discussed. Although this was not a randomized study, there was a group of students who did not watch the pre-recorded online presentations and complete a short quiz before the lecture. One of the reasons include unfamiliarity with the online system orientation. These group of students perceived a poorer learning experience than those who watch the pre-recorded online presentations and complete a short quiz before the lecture. Therefore, if implemented prudently, flipped classrooms can enhance student learning, identify their learning needs, and guide them to higher levels of learning.

Conclusion

In this study, the flipped classroom involves the use of pre-recorded online presentations and pre-lecture quiz as critical evaluation checkpoints to analyse the students' knowledge level and application. Complementing the current conventional lecture, our findings support that the flipped classroom model is a highly effective mean to identify students' weakness and effectively utilize the lecture time to emphasize key concepts.

D2048

CAN PARTICIPATORY ACTION RESEARCH BE USED AS A TOOL TO IMPROVE NURSING STUDENTS PERFORMANCE

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Aims

The main aim of the research study was to explore participants' perceptions and experiences about Participatory Action Research and to use it as an effective tool to improve performance of low achieving nursing students in biosciences modules. The research process was geared towards activities that lead to a change with context.

Objectives

1. To determine the perceptions of stakeholders as well as identify benefits of using participatory action research in area of learning environment.
2. To develop innovative methods to improve student performance through action research.
3. To explore the benefits & constraints involved in team and active collaboration through Participatory Action Research.

Methods

A qualitative approach to the research was chosen to implement the Participatory Action Research. The whole research was divided into four phases.

Phase 1- Defining or identifying a problem

Phase 2- Action Planning (Considering alternate courses of action)

Phase 3- Taking Action (Selecting a course of action)

Phase 4- Evaluating (Adapted from Detailed Action Research Model, McKay, 1995)

A total of 22 students and 12 bioscience lecturers took part in the study while studying the repeat bioscience module. They were invited to become part of the study as well as other stakeholders identified. Class performance was considered criteria to assess the transformation if any. The research tools used in the study were interviews, class observations, student responses, assignments & class tests.

Results

Data were collected from participating students as well as the lecturers involved in the beginning and end of each participatory action research cycle. Changes in the participant students' knowledge, application of knowledge as well as their performance were compared before and after the cycle. From the data analysis, the main research question was answered. All data were collected before and after the research cycle. The findings focused on

•   Experiences of Participatory Action Research
•   Potential benefits of the research.

100% students agreed on the open book concept in exams, while there was partial agreement amongst the lecturers. 70% agreed on the concept of increased percentage in active class participation. Partial support was attained in case of noncumulative testing. Based on the agreement of all stakeholders, a tool was devised to assess the students .Results showed 86.3% success rate. Both the stakeholders benefited from the active participation as was evident from their feedbacks & interviews.

Conclusion

Our study revealed that Participatory Action Research(PAR) is a very useful method to improve student performance, which was also supported by literature review on Participatory Action Research in Teaching & Learning. This pilot method may be extended to all regular nursing bioscience modules as well.

D2049

EFFECTS OF BASIC PSYCHOLOGICAL NEEDS SATISFACTION IN MEDICAL STUDENTS ON STUDENT ENGAGEMENT

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Aims

Learner-centered perspective begins with a focus on how students learn instead of how teacher teach. As the result of this paradigm shift, student engagement does emerge as a vital factor in teaching-learning process. In prior research, basic psychological need was verified as predictor of student engagement. The present study therefore was to test the hypothesis that medical students' basic psychological need satisfaction affect students' engagement in class.

Methods

First and second grade students (n=91) in Ajou University School of Medicine participated in the study. Sixty-four percent of the students were male and 36% were female. And first grade were 53% and second grade were 47%. In addition, 77% of the students were undergraduate medical students and 23% were graduate entry medical students. Basic psychological needs scale ($\pm$=.852) was consisted of 18 items: autonomy($\alpha\pm$=.821), competency($\alpha\pm$=.836), relatedness($\alpha\pm$=.773). Engagement of students was assessed with 16 items from learner participation scale ($\alpha\pm$=.875): preparing lessons ($\alpha\pm$=.849), doing action in class($\alpha\pm$=.760), expressing opinions($\alpha\pm$=.788), extending class($\alpha\pm$=.662), enthusiasm($\alpha\pm$=.662) These two scales are 5-point scales, where 1=never and 5=always. We divided students group differing in gender, grade, education system and analyzed difference according group level using T-test. And we conduct multiple regressive analysis in which we regressed student engagement on autonomy, competency, relatedness of students.

Results

The T-test indicated significant grade difference only on the enthusiasm of all subsets of student engagement(p=.016 < .05). First grade students' mean score(M=3.75; SD=.69) was significantly higher than second grade students' mean score(M=3.39; SD=.69). We predicted that students' basic psychological needs would be differentially related to student engagement in class. For autonomy, competency, and relatedness, 12.4% of the variance was explained, $F(3,87)= 5.267$, $p < .01$. Among basic psychological needs, competency ($\alpha\pm$=.008) was only significant factors to affect the student engagement positively at .05 significant level.

Conclusion

We found that the enthusiasm of upper grade students is significantly lower than lower grade students'. The deficit of affective engagement such as enthusiasm could have a negative effect on cognitive and behavioral engagement like concentration and behavior in class. The result of the present study revealed that the need for further research for why enthusiasm is low in second grade. Competency satisfaction level of students positively influenced engagement in class. This finding has implication for instructors to provide various opportunities for enactive mastery experience for students to get competency. Then students would engage in class more actively.

BIG DATA ANALYSIS OF THE USE OF OPEN EDUCATIONAL RESOURCE ON A YOUTUBE DEDICATED CHANNEL

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Aims

Video as open educational resources (OER) is the corner stone for resources for on line learning. Youtube has been widely used as a distribution platform for OER. The aim of this study was to evaluate the engagement and interactions of hand surgery videos on a dedicated education channel on youtube.

Methods

The author has been utilising a channel in youtube dedicated to hand surgery education since Nov 2, 2008. This channel is devoted to the education of doctors in hand surgery, surgical education and management. The use of these open educational resources was evaluated using YouTube Analytics to monitor the performance of the channel and videos with up-to-date metrics and reports.

Results

Since the formation of the channel in Nov 2, 2008, there has been 439 subscribers with 313,576 views.

ESTIMATED MINUTES WATCHED was 332,023. The AVERAGE VIEW DURATION was 1:57 minutes. There were 72% male viewers and 28% female with 35% from USA and 9% from UK.

In terms of engagement there were LIKES 328, DISLIKES 39,COMMENTS 170,SHARES 140.

Location where videos were watched were YouTube watch page 248,649 (79%).Traffic source was Suggested videos for 89,571 (29%) views and YouTube search 62,859 (20%) of views. The device used for watching was Computer 41,718 (57%) views and Mobile phone 19,971 (27%) views.

The distribution of majority subscribers were as follows: Egypt 68, India 45, United States 45, United Kingdom 17. The majority of sharing was via: - Facebook 58 (41%) and Twitter 24 (17%)

Conclusion

This paper confirms the phenomenon of micro learning by online learners and the average duration of the views is 1:57 min. It is recommended that educational videos as open educational resources should be confined to 2 minutes and be made compatible for computer and mobile device viewing and optimised for sharing on Facebook and Twitter social media..

D2051

USE OF A STANDARDIZED PATIENT SATISFACTION QUESTIONNAIRE TO ASSESS THE QUALITY OF CARE PROVIDED BY FAMILY MEDICINE RESIDENTS DURING RESIDENCY CONTINUITY CLINIC, IN NATIONAL HEALTHCARE GROUP POLYCLINICS

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Aims

Patient contact and satisfaction have been one of the key evaluators for primary care setting. Residency continuity clinic (RCC) was introduced under ACGME-i Family Medicine Program since 2011. This research serves as an initial assessment of the progress of the residency program. This study aims to assess patient satisfaction level by resident care and to detect differences in the level of satisfaction between residents of different experience levels.

Methods

Patient contact and satisfaction have been one of the key evaluators for primary care setting. Residency continuity clinic (RCC) was introduced under ACGME-i Family Medicine Program since 2011. This research serves as an initial assessment of the progress of the residency program. This study aims to assess patient satisfaction level by resident care and to detect differences in the level of satisfaction between residents of different experience levels.

Results

A total of 777 patients participated in this study. 38 RCC residents attended these patients from seven polyclinics. The mean of patient satisfaction was highest in Communication subscale (mean=4.43, SD=0.39) and Interpersonal subscale (mean=4.38, SD=0.38). The mean score on the General Satisfaction subscale for each level of residents ranged from 4.26 to 4.41. There were significant differences in General Satisfaction across the level of residents (p=0.003). The mean score on the Interpersonal Manner subscale was 4.47 among third-year residents (R3), which is significantly higher compared to first-year (R1) and second-year (R2) residents (p-value<0.001). The mean score on Time spent with doctor subscale was 4.21 among R1, which is significantly higher compared to R2 and R3 (p-value<0.001). The mean score on Accessibility and convenience subscale was 3.93 among R1, which is significantly higher compared to R2 and R3 (p-value<0.001).

Conclusion

The introduction of RCC under ACGME-i Family Medicine Program showed good patient satisfaction, especially in the Communication and Interpersonal subscales. The most senior residents showed significant higher Interpersonal subscales score, which suggest a training contribution by the residency program. Long consult appointment allocation of thirty minutes among R1s might contribute to the higher subscale score of Time spent with doctor. Availability of appointment slots among R1s might contribute to a high accessibility and convenience subscale. A further study to look at progression of scorings of the same resident as the experience progresses will provide a better picture of effects and benefits of RCC under family medicine training.

CORRELATION BETWEEN STUDENTS' LEARNING STYLE AND VIDEO PERCEPTION ON ACHIEVEMENT IN OBJECTIVE STRUCTURED CLINICAL EXAMINATION

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Aims

According to VARK learning styles, learning styles can be divided into Visual, Auditory, Read/Write, and Kinesthetic. Each learning styles models have different preferences in studying. Clinical skills training allows students to learn clinical skills by practice. Video is one of the tools we used to help students learn their new clinical skills. Until recently, just a few studies about the effect of student's learning styles in studying new clinical skills have been published. This study aims to assess the correlation between students' learning style and video perception on their achievement in Objective Structured Clinical Examination (OSCE).

Methods

Learning styles of 204 second year Maranatha University students were measured using VARK questionnaire. Students answered 5 questions regarding their perceptions about the video showed steps of baby delivering skills. Each student's OSCE marks in baby delivering station were compared with their perceptions about the video and their learning style. Data were analysed by Stata.

Results

Students with visual learning styles have better chance to pass the examination than those with non visual learning styles (OR = 2,32). At the same time, students with visual preferences multimodal learning styles have higher chance to pass the examination (OR = 2,51). Students with doubt perceptions about the video have better chance to pass the examination than those with bad perceptions (OR = 2,97). Students with good perceptions about the video have higher chance to pass the examination (OR = 3,69).

Conclusion

Video helped students with visual preferences multimodal learning styles in learning new clinical skills. Further study is required to see what other methods can be used to help different kinds of learning styles.

D2053

PHARMACASES: CLINICAL APPLICATIONS AND SCENARIOS THROUGH EXPERIENTIAL LEARNING SYSTEM IN PHARMACOLOGY FOR MEDICAL PRACTITIONERS

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Aims

Didactic teaching remains the mainstay of traditional pharmacology classrooms. Many medical educators are experimenting with innovative ways of learning and imparting knowledge. Experiential learning is the process whereby knowledge is created through the grasping and transformation of experience (Kolb, 1984). What is vital in experiential learning is that individuals are encouraged to directly involve themselves in the experience and then reflect on their experience, using analytic skills to gain a better understanding of the new knowledge and thus retaining the information longer.

Methods

Using case studies is a powerful pedagogical technique for teaching medicine. Cases can be used not only to teach scientific concepts and content, but also process skills and critical thinking. Many of the best cases are based on contemporary, and often contentious, science problems that students encounter in the news or experience themselves, the use of cases in the classroom makes science relevant.

In this talk, I will discuss the application I have created that can virtually simulate clinical scenarios, with the aim of promoting active learning in this fact-filled subject of Pharmacology. It was executed in two parts: first, by exploiting IT infrastructure and Internet, we created several clinical case studies that students will be able to do at their own pace. This interface is interactive and dynamic and the students were able to self-evaluate their understanding of the topic by games and checkpoint quizzes (self-directed learning). This serves as a platform to learn clinical pharmacology through case studies in an experiential manner and it is called PharmaCASES (Clinical Applications and Scenarios through Experiential Learning System in Pharmacology for medical practitioners).

Results

The nursing undergraduate students were taught using traditional didactic lectures and the cohort was separated into control (no PharmaCASES) or treatment groups (PharmaCASES). Access and use of the PharmaCASES was demonstrated to the treatment group and the students had unlimited access to PharmaCASES throughout the course. The treatment and control groups were compared on their performance on the pharmacology questions in quizzes administered at the end of term. In addition, all students were asked to complete a questionnaire at the end of the course to evaluate the level of student acceptance and usability of PharmaCASES. Student feedback and their scores were analyzed from the two different teaching pedagogies. The results favored the use of PharmaCASES.

Conclusion

The future development of PharmaCASES is to have a portable experiential learning platform with case studies, relevant and localized for our medical practitioners. At this stage, the materials designed here are intended to complement the existing teaching initiatives and this has been used in the undergraduate nursing and pharmacy cohorts. Upon its successful implementation, we can further consider this as a tool to replace practical classes, also for a grade-pressure free first semester and creating e-portfolios to assess students' level of learning.

POWER AND CONFLICT IN INTERPROFESSIONAL EDUCATION ARTICLES, 1954-2013: A TELLING ABSENCE

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Aims

Interprofessional education (IPE) aspires to enable collaborative practice. Current IPE offerings, while rapidly proliferating, lack evidence of efficacy and theoretical grounding. Our research aimed to explore the historical emergence of the field of IPE and analyze the positioning of this academic field of inquiry. In particular, we sought to investigate to what extent power and conflict-elements central to interprofessional care-figure in the IPE literature.

Methods

We used a combination of deductive and inductive automated coding and manual coding to explore the contents of 2,191 articles in the IPE literature published between 1954 to 2013. Inductive coding focused on the presence and use of the sociological (rather than statistical) version of power: one about hierarchies and asymmetries between the professions. Articles found to centrally be about power were then analyzed using content analysis.

Results

IPE publications have grown exponentially in the past decade. Deductive coding of identified articles showed an emphasis on students, learning, programs and practice. Automated Inductive coding of titles and abstracts found a potential of 129 articles about power, but manual coding found only 6 articles that put power and conflict at the centre. Content analysis of these 6 articles revealed 2 that provided tentative explorations of power dynamics, 1 that skirted around this issue, and 3 that explicitly theorized and integrated power and conflict.

Conclusion

The lack of attention to power and conflict in the IPE literature suggests that many educators do not foreground these issues. Educational programs are expected to transform individuals into effective collaborators, without heed to structural, organizational and institutional factors. In so doing, current constructions of IPE veil the problems that IPE attempts to solve.

DEVELOPMENT OF A KIDNEY BIOPSY SIMULATION TRAINING MODULE IN A NEPHROLOGY FELLOWSHIP PROGRAM

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Aims

Kidney biopsy is a key diagnostic test for both Chronic Kidney Disease and Acute Kidney Injury. Nephrologist competency in performing kidney biopsy is required to provide safe and effective treatment. Real-time ultrasound guided kidney biopsy is a high complexity procedure and requires good hand-eye coordination.

Ultrasound-guided kidney biopsy has a complex learning curve and demands familiarity with the equipment, as well as manual dexterity in handling the ultrasound probe with the biopsy needle. Besides competency in the actual biopsy, familiarity with the pre-procedural patient readiness, ability to take a procedure-appropriate informed consent, coordinate post-procedural monitoring, management of potential complications, and prepare/transport kidney biopsy tissue to the laboratory are part of the full biopsy training process.

Previously, this training was initiated on actual patients, required extensive bedside teaching which increased procedure time, decreased patient confidence in the trainee physician performing the procedure and enhanced patient anxiety.

We developed a biopsy simulation training module to complement our training program and aimed to perform the biopsy by mimicking the entire procedure in the same procedure suite using the actual ultrasound equipment and nursing staff support. We envisioned that training as a team will enhance coordination and increase team confidence in performing the procedure safely and efficiently.

Methods

We promulgated a comprehensive curriculum detailing the requirements of the training. A special dummy simulating a patient in a prone position was acquired. It had a subcutaneous prosthetic kidney insert simulating an actual kidney under real time ultrasound imaging. Briefing and familiarization of the faculty and support staff were conducted.

Initially, the trainee reads the curriculum followed by a question and answer session on key points about the entire procedure. The faculty then performs a 'walk-through' of the procedure, requiring the trainee to exhibit a real-life procedural scenario which includes pre-procedural check list, procedural dexterity, and post-procedure monitoring requirements. The operator can practice and master the manual dexterity skills in handling the ultrasound probe, the biopsy needle and effectively biopsy the appropriate region of the kidney. The simulation is repeated until the trainee is certified to proceed with a real patient biopsy.

Results

Trainees and faculty expressed great satisfaction with the learning value of the simulation module.

Conclusion

We believe that simulation training should be implemented in all hospitals teaching ultrasound guided kidney biopsy as a core procedure. Trainees and faculty expressed great satisfaction with the learning value of the simulation module. Other training centers showed that biopsy simulation training decreased complication rates, improved trainee confidence, and achieved better overall outcomes.

References
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2. Simulation of real-time ultrasound-guided renal biopsy. Mrug M. Kidney Int. 2010 Oct;78(7):705-7

D2056

MENTAL HEALTH ISSUES; A HIDDEN OBSTACLE FOR MEDICAL EDUCATION

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Aims

Medical training is rated as the toughest undergraduate training anywhere in the world. Students undergo numerous stresses due to academic workload during medical training. In addition, mental health issues are shown to be prevalent among undergraduate students. The effect of these problems on students' performances should be carefully investigated to provide better training facilities. We followed up a cohort of medical undergraduates who underwent screening for mental health issues to determine the effects of these problems on educational outcome.

Methods

As a part of students counseling services, mental health status of all undergraduate medical students were evaluated using General Health Questionnaire (GHQ) and Patient Health Questionnaire (PHQ). Structured self administered questionnaire was used to collect socio demographic data. All students identified as having problems were offered counseling services and appropriate referrals were done for those presented for services. Results of their first end of year summative assessment after the screening programme were obtained from the official, published results sheets. Unconfounded effect of mental health problems on students performance was evaluated in a logistic regression model with sex and English proficiency included as known confounders.

Results

Prevalence of distress, depression, panic disorders, other anxiety disorders and alcohol abuse was 14.7%,(n=71) 14.3%(n=69), 1.7%(n=8), 3.7%(n=18) and 3.5%(n=16) among 484 students participated in this cohort study. Of the students who had alcohol abuse problems, none had average>65. Among the students with symptoms of depression and panic/anxiety disorders only13.4% and 12.5% had an average >65 compared to 25.0% and 23.9% among students without those issues. However obtaining a pass (average 50) was not associated with these problems. Sex disaggregated data showed that the effect of mental health issues is more prominent among male students than female students. None of the male students with alcohol misuse, panic disorder, anxiety disorder or depression had average>65, while more than 15% of those without mental health issues had scored average>65. Adjusted odds ratios for the association between depression and alcohol misuse to not obtaining an average>65 was 1.88 (95% CI1.09-3.45) and 10.78(95% CI 1.25-79.23) respectively.

Conclusion

Prevalence of depression, distress and anxiety disorders are high among medical undergraduates and needs well organized services to help them. Symptoms of anxiety and depression are associated with optimal performance of students. High level of alcohol misuse and high impact of these problems on male students needs further research.

D2057

THE USE OF THE CONSCIENTIOUSNESS INDEX FROM THE PERSPECTIVE OF THE PROGRAMME ADMINISTRATORS

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Aims

Professionalism is one of the 6 core competencies that are taught and evaluated during residency training. While professionalism in clinical areas are regularly monitored and residents receive feedback on their behaviours, professionalism in administrative and learning tasks such as attending teaching sessions, handing in evaluations and filling in case and procedure logs do not have a formal assessment. It was felt that the residents tend to put more emphasis on clinical tasks as they perceive it to be the main aspect of professionalism. Consequently, we faced issues with residents overlooking administrative tasks although these have major impact in their training. Very often, faculty and the programme leaders were not aware of these slips as the programme administrators spent a lot of time and effort to chase the residents for their paper work. We aimed to emphasize to the residents that the programme viewed conscientiousness in administrative tasks as an integral part of their training and professionalism.

Methods

The NHG IM Residency Conscientiousness Index (CI) was devised based on mandatory tasks and the timeline taken by residents to complete them. All this data was already being captured by the programme. The tasks included:

- Attendance at teaching activities
- Submission of administrative data
- Submission of evaluations done with faculty
- Uncatergorised events such as absence without leave and failure to register for mandatory examinations

The CI was implemented in 2013. Residents were informed that this was part of the evaluation of professionalism and were given feedback during each semi-annual feedback session.

Results

Interestingly, there has been an upward trend in the CI scores since implemented. This was prominent in the cohort of residents who joined the programme after 2013. As programme administrators, we feel that the CI has helped collation of evaluations and submission of administrative data as the residents is aware that their punctuality in completing these tasks is being monitored. The use of a scalar measure of conscientiousness with administrative tasks has also helped us to flag out potential problem residents to the faculty objectively so that intervention can be carried out early. Anecdotally, residents who have done poorly in board examinations have also had low CI. There has been little added work on our part as these parameters were already being captured in various platforms prior to the CI.

Conclusion

We feel that there has been a change of residents' perception of professionalism as including administrative tasks and are glad for the implementation of the CI. Assessment drives learning, and it appears that this holds true even in administrative tasks.

EMQ USING MOBILE DEVICES: A FURTHER DEVELOPMENT OF TAG TEST USING MODIFIED EXTENDED MATCHING QUESTION FOR ANATOMY COURSES

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Aims

Structure identification is one important skill for achieving medical competencies. We have developed Modified Extended Matching Question (EMQ) for anatomy course (Prihatanto et al., 2015). Several considerations had been raised due to the implementation, including the question of its validity on assessing searching skill of structure name in an extensive list than structure identification skill. We developed a mobile application for the EMQ. The main objective was improving the validity of the test. Several benefits related to the analysis and administration process were also be the aims of the development. Evaluation for the application and system was conducted.

Methods

We compared the implementation of tag test using a same blueprint (anatomy of the head and neck). Students who have followed the standardized exam using paper based EMQ were invited to join simulation. We developed a mobile exam using web based system for tag test using EMQ. The extensive list of structures (as options) in EMQ were implanted to the system's database. Students should enter correct spelling of the structure in order to make the list of related structures appear. They can then easily choose the structures name. Standardized exam using a paper based EMQ was compared to application of mobile exam. We also distributed questionnaires regarding the implementation.

Results

A number of 146 students participated both the standardized and mobile exam. We found no significant difference (p=0.057) between standardized exam marks (55.8 ± 12.19) of 100 and mobile exam (52.67±17.58) of 100. The method was preferred by most (94%) of the students. The majority (88%) of students also suggested the application of the method in the exam period. Educational coordinator and anatomy teachers found a more efficient exam management and got benefit from the application of this method.

Conclusion

The concurrent validity of the mobile exam was proven. It did not interfere student's ability for identifying structure of head and neck region. Due to positive comments from most students and teachers, we proposed mobile application for EMQ in anatomy exam.

DEVELOPING A CPD PROGRAM (VER. 1) OF OPHTHALMOLOGY FOR PRIMARY CARE PHYSICIANS

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Aims

In Japan, primary care physicians have various opportunities to see patients with eye problems. However they have very few opportunities to learn how to diagnose and treat ophthalmic problems, especially after graduation of medical school. The purpose of this study is to develop a CPD (Continuing Professional Development) program of ophthalmology for primary care physicians.

Methods

We used an action research methodology to develop this program (Cohen, 2008), the design of which includes four phases: Reflection, Planning, Action, and Observation (Cohen et al. 2008). We held the first trial of this program in September 2014 (Action), the evaluation of which (Observation) was conducted after the session. Based on the evaluation, a board-certified ophthalmologist and a board-certified family physician reflected (Reflection) on the first trial and planned (Planning) the second trial, which we performed in March 2015 (Action). We evaluated the second trail by the survey for participants (Observation).

Results

In our program, we adopted both lecture and simulation training as teaching methods. We taught "How to use direct ophthalmoscope", "Diagnosis and treatment of glaucoma", "Common diseases in ophthalmology in emergency situations" and so on by lectures. In simulation training, participants learned "Anterior segment examination (like cornea or conjunctiva)", "Ocular fundus examination by direct ophthalmoscope (PanOptic®)", "Intraocular pressure measurement by tonometor (iCare®)", "Fundus photography by VersaCam®", and so on.

Twenty-four primary care physicians (20 male and 4 female) attended our program.

On evaluation, we found that the participants attended our program because; 1) there were very few opportunities to learn ophthalmology as CPD, 2) he/she has to master examination maneuvers in ophthalmology in his/her clinic, 3) he/she wanted to learn how to diagnose and treat ophthalmic emergency, 4) he/she would like to know when and how to consult ophthalmologists. Participants expressed that they would like to learn more knowledge and skills in ophthalmology.

Conclusion

We developed a CPD Program (ver. 1) of Ophthalmology for Primary Care Physicians. We hope we will improve our program by reflecting, planning, doing and observing it more times in the future.

"MICRO-CEX": A QUICK AND FEASIBLE OPHTHALMOLOGY ASSESSMENT TOOL IN MEDICAL UNDERGRADUATES TO REPLACE MINI-CEX?

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Aims

"Micro-CEX" is a new medical undergraduate (MG) formative assessment tool for Clinical Ophthalmology. It involves shorter but more sessions of standardised, highly focused assessments in comparison to mini-CEX. It assesses important entrusted professional activities (EPA) and feedback (modified Pendelton's model).

We aim to evaluate the effect of Micro-CEX on the performance of CEX testing.

Methods

Fourth year MG from Academic years (AY) 2013/14 received conventional mini-CEX (n= 253); while those from AY 2014/15 had micro-CEX (n= 278). The curriculum is similar in both cohorts consisting of didactic lectures, CEX teaching and clinic attachments.

Five micro-CEX were done in place of 2 mini-CEX. Micro-CEX involved the assessment of specific clinical tasks (examination technique and targeted history taking) by different tutors on patients with pathology or healthy volunteers (with slides showing clinical signs).

 Each task was graded objectively according to the number of completed milestones and correct answers to focused questions. Standardised case scenarios with respective questions sets were used by all tutors when a suitable clinical case was unavailable.

After intervention, the median score percentage (MSP) and interquartile score percentage (ISP) for the mini-CEX and micro-CEX were compared. The MSP and ISP for the different gender were computed.

Results

The mini-CEX and micro-CEX score percentages followed a non-parametric distribution. Kruskal Wallis test of association was used. The MSP and ISP (25th, 75th interquartile) for the micro-CEX group (88%; 82%, 94%) were significantly higher than the mini-CEX group (70%, 66.6%, 76.6%) {p< 0.001). For the mini-CEX group, the MSP and ISP were no different between males (70%, 66.6%, 75%) and females (70%; 66.6%, 76.6%) (p= 0.542}. For the micro-CEX group, the MSP and ISP were also similar between males (88%; 82%, 94%) and females (88%; 84%, 94%) {p= 0.148).

Conclusion

Micro-CEX is a feasible undergraduate Ophthalmology assessment tool that resulted in a better performance in CEX scores than mini-CEX. The CEX scores are not affected by gender in both groups.

E-POSTER PRESENTATION – SESSION 5B

STATION 1

D2061 **Lessons Learned from Promoting Interprofessional Collaboration (IPC) Outside Academic Institution – The Indonesian Young Health Professionals' Experience**
Daniel Richard Kambey, Indonesia

D2062 **Active Coping Protects Against Declines in Empathy in Final Year Medical Students on General Practice Placements: Implications for Teaching Empathy**
Sally Sargeant, Australia

D2064 **Combining Team-Based Learning and Multidisciplinary Approach to Teach Neuroradiology in Radiology Residency: An Alternative to Lecturing**
Yu Wai-Yung, Singapore

D2065 **Impact of Teaching Clinical Skills to Bioscience Undergraduates on Medical School Applications: "Right Student, Right Time, Right Result"**
Daniel Border, United Kingdom

D2066 **Assessment of Clinical Reasoning in Forensic Medicine Using a Script Concordance Test – A Pilot Study**
Ashwini de Abrew, Sri Lanka

D2067 **The Study of the Comments on Clinical Skills Teaching System Based on the Survey Among Medical Students**
Ye Xian, China

D2068 **The Making of an Anticoagulation Clinic (ACC) Pharmacist – Update of our Existing Model of Pharmacist Competency & Privileging in Khoo Teck Puat Hospital (KTPH)**
Chang Shu-wen Grace, Singapore

STATION 2

D2069 **Comparative Ultrasound-Guided Femoral Dialysis Catheter Insertion Simulation Competency and Self-Confidence in Novice Versus Experienced Residents**
Allen Liu, Singapore

D2070 **Premedical and Medical GPA and their Correlation With First-Time Taker Pass on Uji Kompetensi Dokter Indonesia (Indonesian Doctors Competency Examination- UKDI) Among Medical Faculty Students in University Islam Bandung**
Santun Bhekti Rahimah, Indonesia

D2071 **Global Assessment for Universal Doctors -A Pilot Study of Global Assessment in Pathology for Universal Pathologists**
Rani Kanthan, Canada

D2072 **An Evaluation of Supervised Anaesthesia Clinical Teaching in Operation Theatres: Trainees' Perspective**
Khalil Shibli, Singapore

D2073 **Developing Resilience and Coping Strategies for Medical Students Through Purposeful Curriculum and Support Interventions**
Judy McKimm, United Kingdom

D2074 **Multidiscipline Difficult Airway Management Course- How to Create, How to Develop-**
Sayaka Oikawa, Japan

D2075 **Paperless Marking For OSCE**
Jin Yan, Hong Kong S.A.R.

D2076 **Organization of Clinical Placements and Its Impact on Pharmacy Students' Perception of Their Learning Experience**
Hwee Sing Khoo, Singapore

STATION 3

D2077 **Comparing Attrition Rates of BST vs Residency for Family Medicine Postgraduate Training**
Ho Chih Wei Sally, Singapore

D2078 **Preparatory Training for Singapore Physiotherapy Qualifying Exam – Outcome Analysis**
Ong Hwee Kuan, Singapore

D2079 **Need Assessment of Teaching Competencies for Medical Educators**
Harlina Halizah Siraj, Malaysia

D2080 **Language Preference of Medical Students Studying Medicine in Malaysia: Data from Two Initial Pilot Studies**
Sophie Evans, United Kingdom

D2081 **The Creation of New Opportunity for the Post-Graduate Year 2.0 in Taiwan.**
Chiu Hsin Yi, Taiwan

D2082 **Development of the Ophthalmic Nursing Clinical Guidelines**
Aw Ai Tee, Singapore

D2083 **Review and Redesign Competency Based Curriculum (CBC) : A Policy Study**
Gita Sekar Prihanti, Indonesia

D2084 **Can the Conscientiousness Index Predict Academic Success? A Singapore Perspective**
Yvonne Yock, Singapore

STATION 4

D2085 **Determining the Different Learning Styles among Medical Lecturers in Universiti Putra Malaysia**
Maliza Mawardi, Malaysia

D2086 **Adoption and Correlates Of PHEEM in the Evaluation of Learning Environments – A Systematic Review**
Christopher Chan, Singapore

D2087   **Evaluation of a Simulation Workshop to Train Primary Care Doctors to Insert Intrauterine Contraceptive Device**
Ng Lai Peng, Singapore

D2088   **Improving Medical Teaching in Developmental Care and Family-Centered Practice Using the Brazelton Touchpoints Approach**
Chong Shang Chee, Singapore

D2089   **Nyegbo! Rote-Learning – Breaking Dependence in a Resource Poor Environment**
Phyllida Roe, United Kingdom

D2090   **Using Technology to Track Learning Outcomes**
Patricia Camberos, United States of America

D2091   **An Active Learning Approach for Student: Practice Practical**
Chu Jang Hann Justin, Singapore

D2092   **Interdisciplinary Video Vignettes as an Approach to Learning Clinical Communication Skills**
Carmen Wong, Hong Kong S.A.R.

D2061

LESSONS LEARNED FROM PROMOTING INTERPROFESSIONAL COLLABORATION (IPC) OUTSIDE ACADEMIC INSTITUTION - THE INDONESIAN YOUNG HEALTH PROFESSIONALS' EXPERIENCE

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Aims

Promoting Interprofessional Collaboration inside academic institution have its unique challenges. The issues of scheduling, resources, manpower, and advisory board support frequently come up in the discussion.

Indonesian Young health Professionals' Society (IYHPS) was established with the help from Ministry of Education and Culture (later on Ministry of Research, Technology, and Higher Education) since 2012. It is an independent organisation for young health professionals (YHP) across the nation to work together to promote interprofessional education (IPE) and collaborative practice (CP). This initiative was started to break down the professional silos since early stage of their career, and to prepare the future leaders in healthcare with strong collaborative values. Since then IYHPS was entrusted to handle two high-profile projects, the Nusantara Health Collaborative (NHC) 2014, and developing IPC module for Nusantara Sehat (NS) 2015 for the Ministry of Health (MoH). In general IYHPS is one way Indonesia took to overcome the obstacles in promoting IPE-CP inside academic institution by doing it outside the box.

Methods

Nusantara Health Collaborative (NHC) is a series of seminar and workshop aiming to socialise IPE_CP to health students and YHP in Indonesia. It was carried out in 10 regions across Indonesia with main topic to answer the specific region's need in healthcare with collaborative practice.

While Nusantara Sehat (NS) 2015 is a MoH team-based healthcare project to send a group of healthcare professionals to rural parts of Indonesia and serve together for two years. Following the success of NHC, the MoH entrust IYHPS to develop the IPC module for the pre-departure training.

Results

The feedback from both projects were very encouraging. Both projects have high participation rate. One main lesson from doing the projects is, matching the specific needs of the population in the targeted region as intended outcome of the training will increase the effectiveness and engagement of local students, professionals, and stakeholders. Which in turn will be one of the key point to be taken out to daily practice.

Conclusion

Promoting IPC is not bounded within academic/healthcare institution. The young generation of healthcare professionals can step up to promote changes and provide continuity of healthcare education, particularly in inter-professional collaboration.

Take home messages:

- Overcoming obstacles of promoting IPC-PE in academic institution can be done by thinking and doing it from the outside.
- Involve students and young health professionals to promote change in the national level.
- There is high interest from students and YHP to collaborative practice.
- IPC training should be tailored to answer the specific population needs.

D2062

ACTIVE COPING PROTECTS AGAINST DECLINES IN EMPATHY IN FINAL YEAR MEDICAL STUDENTS ON GENERAL PRACTICE PLACEMENTS: IMPLICATIONS FOR TEACHING EMPATHY

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Aims

Students on GP rotations are exposed to several aligned clinical and teaching activities that encourage a patient-centred approach. Empathy and coping strategies are integral to managing confronting patient situations that may differ from students' life experiences. However, it is suggested that empathy declines during medical school, especially in the clinical practice phase of training. Our aim was to measure empathy changes in final year medical students on a general practice placement which included an interview with a carer of a patient with a long-term disability.

Methods

Ninety-three students volunteered in a pre/post-test study. They completed questionnaires at pre- to index Coping Style (Brief COPE), and pre- to post- measures of Empathy (Interpersonal Reactivity Index). A wait-list comparison group of students who undertook an emergency medicine placement was included to strengthen the study design. Data were analysed using mixed between-within ANOVAs with Time (pre- vs. post- general practice placement) as the within-group variable and Coping Style (low vs. high) as the between-group variable. Analyses of Coping Styles were conducted separately (Active Coping, Cognitive Coping, Dysfunctional Coping).

Results

The main significant finding for those on the general practice placement (n = 71), was an interaction between the types of coping styles deployed and the time. Those lower in active coping reported lower empathy at post- relative to pre- general practice placement (p = .017), whereas those higher in active coping reported no decline in empathy pre- to post (F < 1).

Conclusion

Results suggest that active coping mechanisms may help maintain empathy. However students with lower active functional coping skills continue to show declining empathy and may even utilise more dysfunctional coping strategies within their GP placement. This has implications for curriculum development and future directions for teaching empathy and coping. Research is needed to ascertain how to maintain empathy in students with lower active functional coping skills.

COMBINING TEAM-BASED LEARNING AND MULTIDISCIPLINARY APPROACH TO TEACH NEURORADIOLOGY IN RADIOLOGY RESIDENCY: AN ALTERNATIVE TO LECTURING

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Aims

Didactic lectures has been the mainstay of teaching for radiology residents in Singapore. However, it does not encourage participant engagement or active learning. Team-based learning (TBL), on the other hand, allows learners to be actively engaged. Combining neurology and radiology teaching provides clinical relevance and simulates real working multidisciplinary approach.

Methods

We conducted a pilot study of TBL for fourth year radiology residents and invited neurology residents to attend. Pre-reading material was sent out prior to the session. Two facilitators, a neuroradiologist and a neurologist, were present at the session. At the start of the session a short lecture was given. During the TBL session, residents worked through case-based questions collectively in small groups and the application questions were discussed with the facilitators summarizing the key learning points for each question. Residents' engagement, self-assessed learning and preference for TBL were measured.

Results

Seventeen residents participated in the study. All (n=17) residents reported that TBL sustained their attention; 16 of 17 (94.1%) felt they actively participated in the discussions, 14 of 17 (82.4%) were active learners and felt their fellow-learners were actively involved. 15 of 17 (88.2%) agreed they had opportunities to raise questions, share answers and found TBL more enjoyable. 8 of 17 (47.1%) residents felt they learnt more from the facilitators; 5 of 17 (29.4.7%) from fellow classmates and 2 of 17 (11.8%) from self-discovery. All residents preferred this style of teaching to didactic instruction.

Conclusion

TBL is an effective and enjoyable learning method for neuroradiology education amongst Radiology residents. They enjoyed TBL as it encouraged active learning through higher level of participation.

D2065

IMPACT OF TEACHING CLINICAL SKILLS TO BIOSCIENCE UNDERGRADUATES ON MEDICAL SCHOOL APPLICATIONS: 'RIGHT STUDENT, RIGHT TIME, RIGHT RESULT'

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Aims

We previously outlined a clinical skills teaching programme for bioscience undergraduates, in which the aim was to enhance undergraduate study, while also providing valuable insight into the postgraduate study of medicine. Our findings presented at this meeting two years ago, reported a greater appreciation of the relevance of the students' undergraduate work, improvements in basic physiological knowledge, greater contextualisation of learned knowledge, as well as helping with the decision to apply to medical school.

Our aim was to follow up participants from this course, and ascertain their outcomes relating to medical school applications. We hypothesised that having explored the application process, medical school itself, and the career beyond in detail, that reaching an informed decision in this way would improve rate of acceptance to medical school for those who choose to apply, in addition to the benefits in knowledge and context previously reported.

Methods

The course was delivered one year before data collection, and centred around non-mandatory seminars each covering a different examination and physiological system, as well as career information from medical professionals of various levels of seniority. The seminars ran once weekly for 10 weeks in the evenings, led by junior clinicians on campus at our institution, and were entirely voluntary.

We used an online questionnaire to gain information on the outcome for the participants involved, one year after completion of the course. Participants were invited by email, and participation was voluntary. The questionnaire involved a series of yes/no questions, as well as confirmatory questions regarding completion of degree and degree information. Of the 24 who originally provided feedback, 9 of these opted to return the follow up questionnaire.

Results

All participants successfully completed their degree. Of the 9 participants, one obtained a 1st class honours degree, with 8 successfully obtaining upper 2nd class honours.

Of those taking part, 88.9% applied to medical school, and 62.5% of those applying were offered a place to study medicine.

Participants also reported finding it useful to know how a medical degree differed from a science degree, being able to ask questions about medicine and the realities of being a doctor, as well as complimenting other skills such as first aid training.

Conclusion

Competition for medical school places is fierce, with some UK medical school competition rates as high as 12 applications for every offer made.

At the other end of the spectrum, even medical schools with more favourable competition rates still receive around 3 applications per offer made. UCAS also report figures suggesting only around 1 in 3 applicants will be successful in gaining a place at medical school during each application round.

D2066

ASSESSMENT OF CLINICAL REASONING IN FORENSIC MEDICINE USING A SCRIPT CONCORDANCE TEST - A PILOT STUDY

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Aims

Clinical reasoning is a complex, non-linear process that is necessary to evaluate and manage a patient's medical problem and is an essential skill that should be developed in medical undergraduates. The script concordance test (SCT) is a written test that assesses a specific aspect of the clinical reasoning process: the ability to interpret medical information under conditions of uncertainty. Management of cases in Forensic Medicine is challenging as the available information is usually ambiguous and the final diagnosis is often based on a probability rather than certainty. The objective of the present study was to develop and pilot a SCT as an alternative assessment tool in undergraduate Forensic Medicine that emphasizes on assessing clinical reasoning.

Methods

A brief SCT with 6 clinical scenarios was developed. Colour photographs and x-rays were used to provide visual input. Each scenario had 2-4 responses, with a total of 20. Contents were based on common clinical scenarios experienced by third year medical students during the medico-legal clinical rotation and reflected the uncertainty present in real-life clinical encounters. The SCT was administered in an electronic format at the end of rotations, along with the conventional assessment. Students were briefed on the purpose of the test and how it should be answered. The results were analysed using Microsoft Excel. A scoring key was developed based on the responses of five Board-Certified Forensic Specialists SCT scores were -compared with scores of the conventional assessment.

Results

Item quality analysis revealed five discordant items among the scoring (expert) panel and two where all agreed on a particular option. A total of 65 third-year medical students completed the SCT. Scores ranged from 19.4% to 81.9% (mean=44.6%, median=42.9%, SD=13.3). Internal consistency was low (Cronbach alpha=0.51). Less than half (n=28, 43%) scored over 50% for the SCT. Spearman's rank order correlation showed a negative correlation with the conventional assessment scores, which was not statistically significant (rs = (-)0.178, p=0.156).

Conclusion

This pilot study was limited to 5 cases with 20 items, and an expert panel of five which would have been the cause for the low internal consistency. Constructing the test was time consuming particularly as scenarios needed to be developed with the right amount of ambiguity. The test was low cost and easy to administer. The expert panel response demonstrated the variability in clinical judgment for given scenarios. The two items that showed concordance would be more suitable for a multiple choice format. The five items with high variance, show that a discordant rating by a single examiner can unduly affect the score. Test optimization by removing these items was not done, as total number of items was limited to 20.The high proportion of students scoring <50% may indicate low competency in clinical reasoning in ambiguous situations. However, due to the low internal consistency and unfamiliarity to this new format of assessment the results cannot be generalized. Familiarizing the SCT through formative assessments and mock examinations is recommended. The authors consider the SCT to be best administered electronically as a supportive assessment tool.

THE STUDY OF THE COMMENTS ON CLINICAL SKILLS TEACHING SYSTEM BASED ON THE SURVEY AMONG MEDICAL STUDENTS

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Aims

Clinical skills teaching system is crucial in medical education. Studies from international literature have demonstrated that it is valid but still defective at varying degrees. To the authors' knowledge, there is a lack of studies that evaluate the the current teaching practice from the angle of the medical students in China. Therefore, the authors surveyed medical students to assess the current clinical skills teaching system.

Methods

Filed survey was conducted among 380 medical students who have finished the basic clinical skills curriculum in Shantou University Medical College (SUMC). The survey is asking them about their comments towards the current curriculum regarding curriculum designing, training center construction and management, and the quality of faculties.

Results

A total of 339 students completed the survey and were evaluated statistically. Thus, the response rate was 89.2%. According to analysis of the questionnaires, majority of the students agreed that basic clinical skills curricula were beneficial. 64.1% of students preferred to learn some relatively easy skills in early years. Regarding the current distribution of time, 60-70% of students want more time for their self-directed learning. Besides, 57.5% of students suggest that the models in clinical skills training center should be well-repaired and upgraded so as to improve the quality of simulation learning. 85% of students thought highly of the quality of the teachers, however, the important shortcoming of non-unified teaching standard among teachers was also mentioned.

Conclusion

Medical students generally consider that the Basic Clinical Skills Curriculum and clinical skills training center play a significant role in the processes of teaching and learning. The findings implicate that the curriculum designing might be adjusted appropriately, like arranging some courses ahead of schedule, and creating more opportunities for students to self-practice. Moreover, offering the updated facilities can be profitable for students in simulation learning, meanwhile standardizing of teaching is also necessary. More researches on feedback and evaluation of clinical skills teaching system among students are needed.

D2068

THE MAKING OF AN ANTICOAGULATION CLINIC (ACC) PHARMACIST - UPDATE OF OUR EXISTING MODEL OF PHARMACIST COMPETENCY & PRIVILEGING IN KHOO TECK PUAT HOSPITAL (KTPH)

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Aims

Pharmacist-run Anticoagulation Clinics (ACCs) have been shown to achieve better clinical outcomes than standard medical care, which include more time spent within target International Normalized Ratio (INR) range and reduction of bleeding and thromboembolic events. Optimal management of specialized anticoagulation therapy requires additional post-licensure training over and above the Pharmacy undergraduate and pre-registration training curriculum. As there is currently no nation-wide standard for privileging pharmacists for anticoagulation management in local restructured hospitals, each institution designs its own training framework.

The KTPH Pharmacy Department recently enhanced its outpatient ACC training programme to meet the greater complexity of today's patients. We share our past and present experience in training and assessing competency of our ACC pharmacists.

Methods

The KTPH ACC operates via a physician-pharmacist collaborative model and a Medical Board-approved contract prescribing system. To be credentialed and awarded contract prescribing privileges, trainee pharmacists undergo a programme consisting of didactic and experiential components with continuous assessment using a validated peer review tool for consultation skills.

Key improvements to the existing framework were: establishment of minimum competency criteria for potential trainees; a 60% increase in trainees' caseload; incorporating specific requirements for managing INR greater than 5 and peri-procedural bridging, and an in-house competency exam. We integrated this previously standalone framework with the Pharmacy department's entry-level pharmacist training to dovetail pharmacists with basic exposure towards actual training, thereby building and reinforcing existing knowledge and optimizing training resource allocation.

Results

Since August 2014, three trainees were credentialed with the modified programme. Compared to previous trainees, trainees in the modified programme ran more clinic sessions (average 14 vs 11) and underwent more peer reviews (average 17 vs 12 per trainee). The modified programme enabled training of first-year pharmacists; previous trainees had at least 2 years' of working experience. A flowchart was drawn to depict trainees' progress from entry-level competency through to delivering of specialized services, which aligned both trainers and trainees and allowed better estimation of time and training resources needed.

All trainees completed training within the expected time frame of approximately 8 weeks and consistently scored 78% or higher on the competency exam. The hospital's reportable key performance index (KPI) of INR greater-than-5 rate remained well below 1% (target below 5%) before and after implementation, indicating that anticoagulation quality was maintained.

Conclusion

Recent modifications to improve rigorousness of the training framework for ACC adequately prepared pharmacists with basic competency for anticoagulation management, whilst optimizing training resources and maintaining hospital-wide anticoagulation quality.

D2069

COMPARATIVE ULTRASOUND-GUIDED FEMORAL DIALYSIS CATHETER INSERTION SIMULATION COMPETENCY AND SELF-CONFIDENCE IN NOVICE VERSUS EXPERIENCED RESIDENTS

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Aims

Internal medicine (IM) residents have limited exposure to femoral dialysis catheter insertion as it is no longer an American Council of Graduate Medical Education competency requirement. Simulation-based training offers a safe alternative to skills mastery but limited efficacy data exists outside critical care and emergency settings. We therefore evaluated the impact of a structured simulation training program on femoral catheter insertion competency and confidence amongst IM residents without prior catheter experience.

Methods

This was a prospective observational single-centre study involving 16 first-year IM residents with no previous exposure to catheter insertion or ultrasonography (group A). Twenty nine residents, (14 IM and 15 Anaesthesiology) with prior hands-on standard traditional training and who last experienced femoral catheter insertion < 3 months of study start served as control (group B). Group A residents were subject to an individualised 2-hour program of didactic and practical ultrasonography, femoral vascular anatomy, instructional video and supervised FemoralLineMan mannequin practicum. A 26-point validated checklist with 5 domains on patient preparation , site preparation, ultrasound handling, catheter placement techniques and safety adherence and 3 case scenarios were used to assess procedural adherence and professionalism before and 2 weeks after training. Confidence was self-rated using a 10-point Linkert scale. All assessments were conducted under direct observation by 4 experienced procedurists/ rators from anaesthesiology and nephrology using similar mannequins. A score of more than 7 out of 10 (>70%) was set as passing rate.Group A pre and post training scores and Group B and group A post-training scores were compared using chi-square and student t tests.

Results

Group A had comparable female (56 vs 68% , p=0.33) but younger (26±2 vs 29±4 years, p=0.01), less experienced (1.56±90 vs 2.28±1.13 years post-graduation, p=0.04) and more local-university trained (83 versus 59% , p= 0.07) residents compared to group B. Residents in group A demonstrated significant improvement in competency rate and professionalism after training. Self-confidence also improved from 3.00 ±2.30 to 5.63±1.63, p= 0.01). Passing rate in the 5 competency domains and professionalism amongst group A residents post-training compared to group B residents were 81 vs 51%, 88 vs 55%, 63 vs 72%, 56 vs 59%, 81 vs 66% and 56 vs 48% respectively (p>0.05). Self-confidence was 5.63±1.63 vs 7.31±1.11, p=0.00.

Conclusion

Inexperienced IM residents taken through a structured femoral dialysis catheter insertion simulation training achieves comparable procedural competency and professionalism but inferior self-confidence when compared to hands-on trained older residents. Larger and longer studies are required to confirm these trends.

D2070

PREMEDICAL AND MEDICAL GPA AND THEIR CORRELATION WITH FIRST-TIME TAKER PASS ON UJI KOMPETENSI DOKTER INDONESIA (INDONESIAN DOCTORS COMPETENCY EXAMINATION- UKDI) AMONG MEDICAL FACULTY STUDENTS IN UNIVERSITY ISLAM BANDUNG

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Aims

Since 2010, in order to achieve competency certificate as a medical doctor, every graduate student of Medical Faculties in Indonesia has an obligation to undergo Uji Kompetensi Dokter Indonesia (Indonesian Doctors Competency Examination- UKDI). This certificate issued by Indonesian colleges of physicians, aimed to standardized and maintain the quality of medical doctor graduate. First- time taker pass rate in this examination influenced by many factors, including premedical and medical GPA, and early preparation dealing with examinations. Objective of this study was to measure the correlation of Premedical and Medical GPA, with first-time taker pass on Uji Kompetensi Dokter Indonesia (Indonesian Doctors Competency Examination- UKDI) among Medical Faculty Student in University Islam Bandung.

Methods

One hundred thirtieth four (134) secondary data were taken using cross sectional method from student academic report, which were consist of premedical and medical GPA, and first-time taker pass of UKDI, within period 2010- 2012. The correlation the analyzed using Pearson's correlation test.

Results

There was a positive correlation between premedical GPA and first- time taker pass of UKDI (p<0,001) with a strong correlation value (r=0,610), but it was found that there was no correlation between medical GPA and first-time taker pass of UKDI (p=0,479). The premedical GPA has 37.2% influence on first-time taker pass rate of UKDI, while 62.8% influenced by other favtors.

Conclusion

There were strong correlation between premedical GPA and first-time taker pass of UKDI.

GLOBAL ASSESSMENT FOR UNIVERSAL DOCTORS - A PILOT STUDY OF GLOBAL ASSESSMENT IN PATHOLOGY FOR UNIVERSAL PATHOLOGISTS

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Aims

Globalization has created a world that is increasingly interconnected and interdependent. Doctors are part of the largest cohesive community group in the world -the world of medicine -wherein all members speak the same universal language of health and disease. So can we strive for a global assessment for a universal outcome with global fluency?

Methods

This pilot study involved assessment of trainees in pathology in two countries in three independent institutions:

1) CANADA - Department of Pathology & Laboratory Medicine, University of Saskatchewan
2) INDIA - Department of Pathology - Sri Ramachandra Medical College and Research Institute- Sri Ramachandra University, Chennai
3) INDIA - Department of Pathology - PIMS - Pondicherry Institute of Medical Sciences - Pudicherry

Twenty histopathology slides on classical pathological entities were randomly selected to provide a wide cross representation of the ailments of the human body across the board. The trainees in the Pathology program had to arrive at a diagnosis on the twenty slides within an hour.

A feedback contact lecture session was conducted on completion of the task for each group individually to complete their individual loop of learning.

Results

All pathology trainees in their final year of training scored an average of 12 correct answers with a range from 12 to 18. Trainees at a lower level of training on the whole/globally did worse than the seniors in their peer group in each cohort in each country.

Two cases seemed to be misdiagnosed by a majority of the trainees in Canada and in India. These included:

1) a colonic biopsy that demonstrated the presence of metastatic malignancy [lobular breast carcinoma] that was often overlooked [error of omission] and
2) a case of myelolipoma that was often misdiagnosed as a malignant lesion [error of commission].

Conclusion

We live in a global world that has implicit [hidden] and explicit [revealed] global collaborations with the physical transgression of people and pathogens. It is time to break down the silos of individualistic teaching of traditional postgraduate medicine and embrace the global 'uniworld' postgraduate curriculum that will provide a standardized baseline understanding of the normal and abnormal workings of the human body.

This pilot study clearly demonstrates that knowledge is universal yet contextual with many low scores for individual trainees on subjects they were unfamiliar. However, the misdiagnosed 2 cases as referenced above were considered as egregious errors that requires subsequent intervention and training for excellence in both countries and across the cohorts examined.

As teachers/educators of the current times we need to open the doors of transformative global education that can foster cultural intelligence and create strategies that are intergenerational and multicultural to produce universal doctors with global fluency for global excellence.

D2072

AN EVALUATION OF SUPERVISED ANAESTHESIA CLINICAL TEACHING IN OPERATION THEATRES: TRAINEES' PERSPECTIVE

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Aims

The clinical teaching in operation theatres (OT) for anaesthesia trainees is challenging and supervisors' conduct is important for maintaining quality of teaching. Mostly anaesthesia teaching inside OT is interrupted, discontinuous and haphazard. In this study we investigate trainees' perception of supervisors' teaching quality to ascertain overall effectiveness in OT teaching using Cognitive Apprenticeship modelling (CAM) framework. CAM factors are modelling, coaching, articulation, exploration and safe learning environment (SLE). We formulated the following inter-related four research questions. Research questions

RQ 1: What is the trainees' perception about quality of supervision and support of learning offered by the clinical supervisors in OT?

RQ 2: Which learning strategies of the CAM do trainees consider most important and does this preference vary with their training stage?

RQ 3: What is the difference of CAM scoring on trainees' realised score on supervisors' ratings and their desired scores for important CAM factors?

RQ 4: Why do the trainees have these preferences and do they think CAM is an adequate model to evaluate and improve their OT learning?

Methods

This explanatory, sequential, mixed methods design study used Maastricht Clinical Teaching Questionnaire (MCTQ) to measure the quality of clinical supervisors teaching by the trainees according to CAM framework. The anaesthesia trainees at Khoo Teck Puat Hospital (KTPH) and Tan Tock Seng Hospital Singapore were invited to rate supervisors conduct (realised scores) and indicate of 'importance of CAM factors at their training stage' (desired scores) according to CAM framework. Sixty (60) trainees were invited to evaluate six (6) supervisors each for their teaching conduct on supervisors rating (MCTQ 1) and additionally indicate the most important CAM factor) at their training stage (MCTQ 2). Focus group discussion conducted for qualitative data capturing.

Results

Out of sixty, fifty nine (59) trainees returned six 'supervisors ratings' each and single 'importance of CAM factor' forms (98% response rate). Total of 354 ratings obtained on 60 supervisors but 302 ratings could be utilised for analysis since they belonged to 41 supervisors who received more than

4 trainee's evaluations each. 'Supervisors rating' scores (realised scores) and 'importance of CAM factors' scores (desired scores) by the trainees demonstrated that the safe learning environment (SLE) and Coaching occurs in OT teaching higher than other CAM factors and most desirable amongst all the CAM factors at all training stages. Articulation and Exploration on supervisors rating scored low. When individual trainees supervisors ratings (realised scores) and desired scores of trainees 'importance of CAM factors' were compared, SLE and coaching scores were significantly lower in realised than the desired scores. Qualitative analysis on Focus group discussion also revealed safe learning environment and coaching as the most desirable CAM factors in OT teaching.

Conclusion

Overall performance of clinical supervisors in current OT anaesthesia teaching is satisfactory. Safe learning environment and coaching are the most important and desirable CAM factors at all training stages. The realised scores on SLE and coaching (supervisors' ratings) were less than the trainees' desired scores (importance of CAM factors for trainees) thus pointing towards instituting formal faculty training programmes for the supervisors.

D2073

DEVELOPING RESILIENCE AND COPING STRATEGIES FOR MEDICAL STUDENTS THROUGH PURPOSEFUL CURRICULUM AND SUPPORT INTERVENTIONS

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Aims

Medical students and doctors are particularly vulnerable to stress and burnout (1). A well-designed support system is not only needed to ensure that students maximise their chances of successful progression through the course (2), but also can be used to develop coping strategies for dealing with the demands of clinical practice.

The Graduate Entry Medicine (GEM) programme at Swansea University aims to provide a supportive and facilitative atmosphere for students in all aspects of relating to their academic, clinical and professional development.

The aims of the student support system are to:

(a) provide a structured series of formal activities within the curriculum to develop resilience and self-insight;

(b) underpin these with a system designed to provide additional support for those who require it.

Methods

We describe the system that integrates support into the curriculum within the Swansea GEM programme. This system draws together a mixture of individualised and group sessions, delivered by a wide variety of teams, both within the College and University (e.g. personal tutors; professional development team; Wellbeing Unit etc). In addition to functioning to support students, our system enables students to both recognise and practise techniques that will help them build resilience. This 'prophylactic' approach places the sessions at times of heightened vulnerability and identifies struggling students early. The latter aspect feeds into our web of support (3) and allows bespoke extra support interventions to be added before students reach a point where they are unable to continue on the course.

Results

Although we are yet to evaluate the effectiveness of the system as a whole, our student progression rates are excellent and course feedback suggests students generally feel supported throughout. In the 2015 UK national NHS F1 trainee survey, Swansea students were jointly identified as being the most prepared and least likely to be suffering from anxiety in their Foundation (internship) posts (4). Whilst this result is likely to be heavily influenced by our clinical teaching and course structure, our unique support system is likely to have substantially contributed to this outcome.

Conclusion

The stress and burnout experienced by many medical students (1) can be alleviated through a purposefully designed programme which combines formal curriculum activities to develop self-insight, understanding of the pressures of clinical work and opportunities to debrief with near-peers with a 'web of support' (3) that enables students to access personalised support wherever they are studying at whatever stage of the programme. This approach can help students cope with the demands of the course as well as provide a foundation for lifelong coping strategies when engaging in 'people work' (5).

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MULTIDISCIPLINE DIFFICULT AIRWAY MANAGEMENT COURSE – HOW TO CREATE, HOW TO DEVELOP

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Aims

Background and Aims: Difficult airway management (DAM) is critical skill for both inside and outside the operation room. However, it is common that there are several different DAM algorisms in one hospital. In such situation, airway emergency would result in unsuccessful due to lack of mutual understanding. For quality improvement, we established original DAM course for multidiscipline trainees. We would like to introduce how we create and develop this course based on the participant's answer of questionnaire and evidence of medical educational research.

Methods

We developed the airway management course for patient safety in 2014, which invited faculty from Anesthesiology, Otolaryngology and Emergency medicine. The 1st course was held with 6 participants who had over 3-year experiences as physicians. The course was consisted of lecture, skill training and simulation-based scenario training.

Reviewing the questionnaire which were filled out by participants, the total satisfaction score was relatively high in lecture and skill training session. (Lecture satisfaction average score: 4.25 SD1.54, Skill training satisfaction average score 4.33 SD 1.53, Scenario training satisfaction average score 3.83 SD1.38 respectively.) By reviewing the free comment of the questionnaire, we concluded that the fidelity of simulation-based session was low considering their experiences and expectations, and that they desired more time for discussion based debriefing. The other comment requiring interprofessional training collaborating with nurses and physicians. We investigated these result as a beta test, and revised equipment and debriefing style and variety of participants. In the 2nd course, we introduced the real medical instrument in the scenario and showed several patterns of graph in order to raise the fidelity and make scenario complexed. As well as physicians from multiple specialties, we invited nurses as a multidiscipline training.

Results

This time we revised our course contents based on participant's voice and evidence of medical education. As a result, the satisfaction of participants were still high. In process of developing curriculum, we have to focus on participant's perspectives and evedence of medical education. This process helped us to go right direction and expand our horizon. If it is possible, we need to share our experiences with other institutions which have already introduced DAM training in order to develop ideas and motivate our team members. This contextual and collaborating DAM course will be held in every 3 months. Our goal is to continue developing course design and to link with patient airway safety in the future.

Conclusion

We created original DAM course based on our hospital context. We will introduce how we develop this multidiscipline DAM course with fully considerate revising process.

D2075

PAPERLESS MARKING FOR OSCE

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Aims

Objective Structured Clinical Examination (OSCE) has been widely used by medical schools around the world for assessing clinical competency. The detailed breakdown marking scheme is popularly adopted as an assessment method as it allows examiners to grade students' performance easily and consistently.

Traditional OSCE requires examiners to grade each student on paper; creating an administrative workload to record and grade the data after each OSCE. Adding to the fact that the paper records need to be stored for years in case of any discrepancy; a better system to grade OSCE is needed to replace this outdated method.

In 2013, the Teaching and Learning Resource Centre (TLRC) collaborated with The Jockey Club School of Public Health and Primary Care (JCSPHP), of The Chinese University of Hong Kong, on using iPad as marking tools in order to make the marking process paperless. TLRC developed an iPad application for marking OSCE, which were tested with the help of JCSPHP's annual OSCE.

Methods

The marking scheme within the application was tailored in accordance with the module examination and preinstalled onto iPads by IT professional prior to the examination. The process involved the creation of the OSCE checklist using the preset template and loading them onto the iPad. This application was first tested in 2013. Two out of ten OSCE stations from the JCSPHP Year Four module examination tested ran this electronic marking. Four examiners participated in this marking process for 171 students.

The application required the examiners to select the scores for each point from the checklist. It also had a comment section that examiners can type in. A reminder message would appear if the examiner missed any scores when submitting the marking scheme. All the examination results were stored in iPads and sent to administrator via email after the examination. Screenshots of the electronic marking sheets were also captured and traditional paper marking was used to ensure the application captured the correct information.

Results

The application ran smoothly without any problems during the module examination. All the data from the application captured the same information as the paper version. Examiners welcomed the introduction of this electronic marking application for OSCE.

Conclusion

Electronic forms of the marking scheme for OSCE can be easily created and stored via this iPad application. It saves a lot of administration work and human errors as the final scores are calculated automatically. The user friendly interface and simple operation flow were well received by examiners. This application brings new concept on marking process for OSCE within the faculty. JCSPHP had since expanded the use of this application to all ten of their OSCE stations in their module examination.

ORGANIZATION OF CLINICAL PLACEMENTS AND ITS IMPACT ON PHARMACY STUDENTS' PERCEPTION OF THEIR LEARNING EXPERIENCE

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Aims

Placement in clinical settings is an important part of pre-professional education for pharmacy undergraduates. In Singapore, pharmacy students go through a 6-week placement in their 2nd and 3rd years of study. The placement follows a 'traditional' rotational approach, where students move through many different clinical settings for relatively short duration, to ensure a broad-based learning experience.

While the rotational approach is commonly adopted, there is very few attempts to study how different rotational structures affect students' learning experience. In this exploratory study, we examined the impact of arranging the same rotations in different ways affect students' perceptions of their learning experience.

Methods

Twenty-two 3rd year pharmacy students went through their clinical placements in a large acute hospital in Singapore. The placements included rotating between outpatient and inpatient settings with a block of one-third of the time in outpatient (OP) settings and various small blocks of 1-2 days in several inpatient and satellite clinic settings (IP).

Students were divided into 3 groups. The OPFirst (n=8) group went through OP in the first 2 weeks; The OPMid (n=7) group went through OP in the middle 2 weeks, and the OPLast (n=7) went through OP in the last 2 weeks of their placements.

At the end of 3rd and 6th weeks, student completed online surveys with questions pertaining to their perceptions of their learning experience.

Results

All students completed the mid placement survey and 95% completed the end placement survey

The overall satisfaction lower in the mid placement survey (mean=3.23, scale of 1-4) as compared to end placement (mean=3.48). Satisfaction for OPFirst were consistently lower in both mid- and end-placement (means=2.88 and 3.13, respectively) as compared to satisfaction for OPMid (means=3.57 and 3.83, respectively) and OPLast (means=3.29 and 3.57, respectively).

Conclusion

Different ways to organize the same rotations in clinical placements seems to impact learning experiences of pharmacy students. This could be related to the different learning skills required at each rotation. In OP, students learn largely through picking and packing of medications with minimal patient contact. The learning is less intensive as compared to IP where the focus is more on patient care. This could possibly explain the low satisfaction with OPFirst as they may find the learning less challenging. This effect seems to also carry over to their overall learning experience at the end of the placement. In contrast, satisfaction in OPMid was high, even though they went through the same OP rotations. This suggests that splitting intensive learning rotations with less intensive learning rotations in between may actually provide a better overall learning experience. This possibly allows students to engage in 'catch-up' learning during the less intensive rotations.

In conclusion, rotational structures do impact how the students learn. It is thus important to relook and redefine how rotations should be structured. From this study, inserting less intensive rotations between more intensive rotations appeared to be a preferred structure with students where they rated the learning experience more highly.

D2077

COMPARING ATTRITION RATES OF BST VS RESIDENCY FOR FAMILY MEDICINE POSTGRADUATE TRAINING

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Aims

Attrition from training and high failure rates of examinations under the Basic Specialist Training (BST) framework led the Ministry of Health Singapore to implement the more structured residency training framework under ACGME-I accreditation to increase the efficiency and effectiveness of postgraduate training for all specialties. This study aims to study the effect of implementation of the residency framework on attrition rate for Family Medicine postgraduate training leading to the Master of Medicine (Family Medicine) (MMed FM).

Methods

BST was a national program with trainees rotating through different hospital departments in the first 2 years and completing the third year of training in one of the 2 clusters of polyclinics. For the new residency training framework, residents apply to and are matched to a Sponsoring Institution for the entire 3 years of training. Attrition rates for Family Medicine BST was examined for the 2006 to 2010 cohorts and compared to that for Family Medicine residency for SingHealth, one of the 3 Sponsoring Institutions, for the 2011 to 2014 cohorts. Reasons for withdrawal at exit interviews were also compared.

Results

Attrition ranged from 25% to 54% under BST for the 2006-2010 cohorts. The figures for SingHealth Family Medicine residency were 0% and 5% for the 2011 and 2012 cohorts which have completed the 3-year training program. For the 2013 and 2014 inflight cohorts, interim attrition rates are 0% and 6% respectively. The most frequently cited reasons for withdrawal from BST were childcare and family commitments (30%), switching to the Graduate Diploma in Family Medicine (GDFM) (12.5%), relocation (12.5%), joining the private sector (12.5%) and switching specialties (10.0%). Switching specialties was the reason for the 2 residents (100%) who withdrew from residency. Hypotheses for the lower attrition rate include the contextual Family Medicine clinical training, peer and faculty support that began in Year 1 of training, instead of Year 3 under BST. The close monitoring of resident clinical competence through frequent work-place based assessments and formative feedback with a formal mechanism for performance improvement plans under Residency training likely helped to identify struggling residents and supported them towards completion of training.

Conclusion

The residency training framework has greatly reduced attrition rates from training. It will be important to study the reasons for the reduction and retain them to strengthen the training framework in subsequent reviews of postgraduate training. Identification of sustainable success factors for scaling and spread are critical to train large numbers of Family Physicians.

D2078

PREPARATORY TRAINING FOR SINGAPORE PHYSIOTHERAPY QUALIFYING EXAM - OUTCOME ANALYSIS

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Aims

The Advance Certificate in Physiotherapy (ACP) is a post-professional course developed to prepare physiotherapists graduated from non-traditional sources to undertake the Singapore Ministry of Health Qualifying Examinations (QE), which has a theory and practical component. The ACP is a 4 month part-time program conducted after working hours. The curriculum contains four concurrent modules and the instructional design includes e-learning, workshops and interactive lectures. This study aims to review the course's efficacy in improving student's knowledge and skills, as well as its impacts on QE passing rate.

Methods

A retrospective analysis of course data collected since program inception in 2009 was performed. Baseline data included funding status (self vs. sponsored), gender, class size, years since graduation, country years of relevant working experience, presence of higher qualification, baseline exam that modelled after QE (pre-course). The main outcome measures were final exam score (out of 100%) which format was modelled after QE, final course score (range 0-10, an aggregate of final exam, quizzes, assignments presentations and online class participation) and QE outcome (pass/ fail). Two types of statistical analyses were used. To examine the educational outcome, paired t test was used to compare the baseline and final exam performance. The impact of the course on QE outcomes was analysed using risk factor modelling. A prediction model for QE outcome using the final course score (as primary predictor) and other plausible predicting variables identified through correlation analysis (as confounders) was developed using binary logistic regression. The outcome of interest is passing/ failing QE.

Results

The course has 12 intakes totalling 85 participants (28% male) The mean aged was 31.7 + 5.0yrs (SD) with working experience of 7.0 + 3.6yr (range 2-16yr). The participants were primarily graduated from Myanmar (35%), India (31%) and Philippines (31%) schools. Based on the available data, 32 (45%) were self sponsored, 9 (10%) had Master level qualifications. The successful ACP graduation rate was 83.5%. The course significantly improved the exam performance [32.6% vs. 57.0%; t(47)=-17.7, p<0.0001,SEM=1.38]. The QE passing rate excluding the 2 most recent cohorts (as they are yet to challenge the exam) was 66.7%. Spearman correlation analysis showed that when independently examined, the QE outcome was significantly correlated only to class size (Spearman rho=-0.29, p=0.024). The risk factor modelling was performed to ascertain the effects of ACP on the likelihood of passing QE. The logistic regression model was statistically significant, 2(4)= 13.2, p=0.01. The model explained 27.4% (Nagelkerke R2) of the variance in passing QE and correctly classified 75% of cases. The model showed that the odds of passing QE is 1.8 times greater for every point increase in the final ACP grade (odds ratio, OR 1.80, 95% CI 1.1, 3.0), after adjusting for class size, years since physiotherapy graduation and possession of Master level qualification.

Conclusion

Participation in ACP led to a large improvement in knowledge and skills. Good ACP final score was a significant and independent predictor of QE success.

D2079

NEED ASSESSMENT OF TEACHING COMPETENCIES FOR MEDICAL EDUCATORS

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Aims

To evaluate medical educators' perception on the importance and current level of teaching competencies.

Methods

A need assessment survey was conducted using both online and paper questionnaires, involving medical educators in Faculty of Medicine UKM from March to July 2015. The survey explored the educators perception on the importance of teaching competencies as well as their self-evaluation of their current ability level on the competencies. Their readiness to be involved in peer observation of teaching (POT) was also evaluated.

Results

123 educators responded to the survey (29.8% response rate). 40% had been teaching for more than 10 years and 70% attended less than five faculty development programs so far. Majority perceived the teaching competencies listed as very important (weighted average: 3.48 - 4.0). Most indicated that their level of ability in the teaching competencies as only fair (weighted average: 2.42 - 3.19). Only one third agreed to participate in POT.

Conclusion

Medical educators are generally poorly trained to teach. They are required to enhance their teaching competencies through participation in more faculty development programs.

LANGUAGE PREFERENCE OF MEDICAL STUDENTS STUDYING MEDICINE IN MALAYSIA: DATA FROM TWO INITIAL PILOT STUDIES

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Aims

Many medical schools throughout the world use English as their language of instruction, meaning many students are facing the added challenge of studying medicine in a second language (L2). Although it has been identified that lack of proficiency in English can hinder academic performance (1), little has been written about how L2 medical students approach their studies in terms of language usage.

The aim of this study is to identify how medical students at Newcastle University Medicine Malaysia (NUMed) use both their first and second languages during different aspects of their studies, and how confident they feel in their English language proficiency. The first part of this study was to pilot the questionnaire, to identify any data trends and validate the questions used.

Methods

An online electronic questionnaire was developed based on literature searches and questions available from a validated questionnaire undertaken at Newcastle University, UK. This was distributed to all medical students in a single year group via e-mail. This was then modified, based on student responses and feedback, and redistributed to a different year group using the same method. Participation was voluntary and the purpose was explained to the students in both the email and again prior to starting the questionnaire. Responses were anonymous and participants could not be identified by researchers following completion of the survey.

Results

74% of students identified a language other than English as their first language, just under half of these (48%) spoke Chinese (including dialects), with 45% speaking Malay. Most students attended schools where the primary language of instruction was not English: 83% reported attending boarding schools and government daily schools (Malay) or Chinese vernacular schools.

Despite this the majority of students felt confident with their spoken or written English half the time or more, and only two students reported finding it "frequently" or "always" difficult to think in English. Most students did not translate their reading, study notes or verbal lecture content into their first language. Although a large proportion of students reported doing this "sometimes". The main difference was studying in groups where over one third of the students reported "sometimes" or "never" preferring to use English.

Conclusion

Despite speaking English as a second language, most of our students are confident in their English proficiency and conduct both classroom and self-directed study in this language. An area which does not follow this pattern is during study groups, where students prefer to use their first language. By identifying this area where students are varying in their studying approach, this may provide an additional area to target study skills support for those students who are not achieving their desired target grades.

Reference:
1. Andrade MS. International students in English-speaking universities: Adjustment factors. Journal of Research in International Education. 2006;5(2):131-54.

D2081

THE CREATION OF NEW OPPORTUNITY FOR THE POST-GRADUATE YEAR 2.0 IN TAIWAN

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Aims

When occurring the SARS (Severe Acute Respiratory Syndrome) in 2003, it exposed that the training of the doctor focus on the specialization of training. In order to build up the general medicine training, the advance of the holistic medicine is going to be achieved. The development of the system with specialization of training of physicians improved so that the trainees are able to strengthen the capability of primary care at the earliest practice, and cultivate the conception and practice of holistic medicine. The regime has been designed and promoted gradually from 3-month training, 6-month training to one-year training. Therefore, the regime has experienced 8 years, has been proceeded to the 11th year and has been provided good and stable foundation, has impeccable system, including the cultivation of tutor, and the improvement of the educational environment, etc.

Since the 2013 academic year, the Ministry of Education has amended the year of study for medical school from 7 years to 6 years. In combination with the PGY training for the period of 2 years after graduation in the future, the overall medical education has more comprehensive planning and connection from integrated medical education to school and to clinical. We implemented this program on commission of the Ministry of Health and Welfare in organizing a pilot PGY training system (divided into internal medicine, surgery, gynecology, and pediatric trainings in general medicine) starting with three medical centers in the 2013 academic year to connect specialty training in the future. We hope that the graduate students from the 6-year education system have a more rigid continuous unity in medical education all the way from school education, post-graduate general medical training to specialty training.

Methods

To act in corporation with the conception of bilateral interaction of PGY 2.0, PGY 2.0 will contain the opinion from trainees and make a suggestion which assign the representative from the training hospital through convening task force to inviting medical educationist, the medical college representative and medical association representative to discuss.

Results

The PGY 2.0 program considered: 1.five core capability from Institute of Medicine and six core capability from Accreditation Council for Graduate Medical Education, trainee-center and practical clinic training will be included. And training course is based on the CanMEDS in Canada and the fundamental framework of Entrustable Professional Activities (EPAs), distinguishing differences between trainee and physician; 2.long-term and community health care; 3.strengthen Inter-professional practice to increase the efficiency of corporation among health care team and the quality of health care. 4.inspect the demand of medical care in Taiwan and continued medical education system. Using milestone strategy to connect basic medical education, post-graduate medical education (specialty training), and continued medical education (continued professional development).

Conclusion

The program of PGY 2.0 is not only the extension period to 2 years, but also the whole new evolutionary version PGY program. We hope new PGY training program is helpful to patient care for their future career.

DEVELOPMENT OF THE OPHTHALMIC NURSING CLINICAL GUIDELINES

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Aims

The aim of the is project is to develop and publise clinical guidelines for Ophthalmic Nursing Procedures.

The authors wanted to share their ophthalmic experiences and expertise to make a change for continuing professional development. The development of writing a book involves undertaking research, the writing, and dissemination of our work in own country, and imperatively, sharing the information with the international community in the ophthalmic discipline. This is the rationale behind the development of our first nursing book entitle "Ophthalmic Nursing Clinical Guidelines".

Methods

This is a participatory action research project.

Results

The topics for a book mainly comes from teaching and research activities, own experiences, clinical practice development and specific clinical skills, for this instance - ophthalmic medical, nursing and allied health practices. The authors of this book are ophthalmic clinical nursing experts, ophthalmic nursing educators and nurse researchers.

Conclusion

Translating evidence into clinical practice guidelines is one of most direct ways that new knowledge can be disseminated. It is through this journey the trainees of ophthalmic professional will learn to link the theory and evidence based with the reality of practice situations so that they understand the value in knowing why the practice has to be done in this way to solve the problem when the encounter themselves.

Development of a procedure manual requires strategic thinking, clinical judgment, knowledge of organization, and hard work to commit to the task. It can be one of the most rewarding experiences, when you know our project has made a difference.

D2083

REVIEW AND REDESIGN COMPETENCY BASED CURRICULUM (CBC): A POLICY STUDY

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Aims

The dynamic development of medical science so quickly therefore requires us to respond and responsive to these changes. One of the responses to the development of medical science is the change in medical education curriculum. Medical Education in Indonesia using the Competency Based Curriculum (CBC) with reference to the Standar Kompetensi Dokter Indonesia (SKDI) which has been revised. This shows that the medical institutions throughout Indonesia needs more attention and adapt the curriculum so that graduates more competent. CBC implementation requires a strong foundation for the learning process such as a CBC blue-print. In the faculty of medicine University of Muhammadiyah Malang (UMM), the CBC blue-print still not well documented, not yet define and integrate the core competencies and supporting competence in all blocks thoroughly and not in accordance with the steps for curriculum development. One of the key steps in the development of curriculum is needs assessment, include the identification of the difference between real practice and the expected ones. This difference is the improvement of education program objectives and is an integral part of the development of general medicine education program. Therefore, before reviewing the CBC blueprint, it is necessary to identify the needs of the graduates competence (needs assessment). This study aims to identify the needs of the competence of graduates FK (needs assessment), review and redesign the blueprint for CBC.

Methods

This study used observational descriptive with a combination of quantitative and qualitative studies which is the policy study activities. At the stage of identifying the needs of graduates, the authors perform the following steps: using a reference standard of Indonesian Doctor Competence; referring to the vision and mission of the faculty; conduct literature reviews on the needs of local, national, and international about the competence of doctors; The wise men approach; consultations with stakeholders; study of the failure; gaps or problems that occur in practice; Critical-insident studies; Task analysis and research on the "star performers". This study used various methods such as: questionnaire surveys, interviews, focus groups, tracer studies and curriculum redesign mentoring by CBC consultants. The result from need assessment, review and redesign curriculum presented at the CBC workshop as draft of CBC blue print. This study carried out in several places, such as: Malang (rural and urban) and Jombang. Respondents in this study is an alumni, UMM medical students, stakeholders including UMM medical teacher and user, and also non-User. Data were analyzed using quantitative and qualitative descriptive analysis.

Results

The results is CBC blue print integrated with local competencies. Good CBC blue-print become strong foundation for CBC implementation and then improve learning process and make student learning outcomes increase (GPA increases, time studies faster, and can increase the result of progress test and national examination).

Conclusion

The initial step in the preparation of the curriculum is to identify the needs of the competence of graduates (needs assessment). The identification results are used to evaluate and improve the shortcomings blue-print existing CBC as part of the curriculum redesign.

D2084

CAN THE CONSCIENTIOUSNESS INDEX PREDICT ACADEMIC SUCCESS? A SINGAPORE PERSPECTIVE

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Aims

Professionalism is multi-dimensional and one aspect that is seldom measured is conscientiousness outside of the clinical setting. Conscientiousness with administrative tasks has been shown to correlate with academic achievement, and MacLaughlin et al have devised a measure to objectively define this called the conscientiousness index (CI). Our internal medicine residency programme modified the CI to be relevant to a post-graduate setting. Its components include attendance at teaching activities, logging of cases and submission of evaluations done with faculty. We tried to identify if the CI could predict success in the internal medicine in-training examination (ITE) and Membership of the Royal College of Physicians (UK) Part 2 Clinical Examination (PACES).

Methods

CI scores, ITE and PACES results for all second and third year internal medicine residents were collated for the academic year 2013/2014. Analysis was done using multiple regression.

Results

69 residents were included in this study, of which 31 graduated from local universities and 38 from overseas universities. There was no correlation between CI and success in PACES. However, there was a significant relationship between CI and ITE scores ($\beta=31.24$, $p<0.01$). When looking at the subgroup of residents who graduated from non-Singapore universities, there was also a significant interaction ($\beta=-29.04$, $p<0.01$). Gender, location of resident's undergraduate medical training and resident's average CI score accounted for 21.59% of the variance in ITE score, ($F_{(4, 63)} = 4.39$, $p < .05$, $R^2 = .22$, R^2Adjusted = .17). Interestingly, improved CI was correlated with increased ITE scores only in residents who were not locally trained. This phenomenon may be because of small sample size but warrants further study.

Conclusion

CI may be a possible tool to predict academic success.

D2085

DETERMINING THE DIFFERENT LEARNING STYLES AMONG MEDICAL LECTURERS IN UNIVERSITI PUTRA MALAYSIA

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Aims

Everyone has different ways of learning in which is known as learning style. Learning involve sensory modalities such as visual, aural, read/write and kinaesthetic. Having knowledge about learning styles enables medical lecturers and educators to use different teaching approaches for medial students who would also have a variety of learning styles. This study was conducted to determine the different learning styles among medical lecturers in Universiti Putra Malaysia and its significant associating factors by using VARK questionnaire.

Methods

A cross sectional study was conducted among 79 randomly selected medical lecturers in Faculty of Medicine and Health Sciences, Universiti Putra Malaysia within a period of 3 weeks. A self-administered questionnaire was used to obtain the respondents demographic background. The learning styles were determined by using the validated VARK (7.2) questionnaire. Scores were calculated to determine the different learning models and styles of the respondents. Descriptive analysis was carried out to determine the association between learning styles and factors affecting the choice of learning styles.

Results

Among 79 respondents, only 38% are found to be unimodal learners, where most of them (17.7%) are read/write learners followed by kinaesthetic learners, aural learners and a few (2.5%) being visual learners. Most of the respondents (62%) are multimodal learners. Multimodal learners are further grouped into either quadrimodal, trimodal or even bimodal learners. Majority (36.7%) are quadrimodal learners. Further analysis did not find any significant association between demographic and professional factors with the type of learner the respondents are. A larger study involving more participation of medical lecturers from different medical schools should be carried out to be able to generalize the medical educator profession. By doing so, a better difference could be visualised between the preclinical and clinical medical lecturers and even with the duration of their teaching services.

Conclusion

Even without any significant factors affecting the learning styles of medical lecturers, it is now known that majority of the respondents are multimodal learners. This may indirectly affect their teaching styles towards medical students as students may show a different style of learning between one another that is proven in other similar studies involving medical students.

ADOPTION AND CORRELATES OF PHEEM IN THE EVALUATION OF LEARNING ENVIRONMENTS - A SYSTEMATIC REVIEW

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Aims

The Postgraduate Hospital Educational Environment Measure (PHEEM) was developed and published by Roff et al. in 2005 to measure the educational environment in post graduate medicine. The PHEEM has been evaluated to be a highly reliable, valid and practical instrument. It has been translated into many languages and used internationally. A recent systematic review identified PHEEM as the most suitable instrument for measuring the educational environment in post graduate medicine.

This study aimed to describe and evaluate the application of PHEEM in various medical educational environments around the world, in order to facilitate future application and research.

Methods

A systematic literature review was conducted using the web of knowledge databases of all articles which reported PHEEM data from inception to 25 July 2015.

Results

This review included 31 papers, with data from 14 counties around the world. Cronbach's Alpha ranged from 0.84 to 0.955, demonstrating high reliability. Significant differences in the PHEEM score were found between different levels of training, different centers of training and different training programs.

Common weaknesses in educational environments included lack of counseling for junior doctors who fail to complete their training satisfactorily, lack of regular feedback, having inadequate catering facilities and inadequate accommodation while on call. Common strengths were having a good collaboration with other doctors, feeling part of a team, low levels of racism and sex discrimination. In addition, correlations with PHEEM such as the In-Training Exam (ITE) and burnout were found.

Conclusion

The PHEEM has been widely used for a variety of purposes, and it has proven to be a useful tool in identifying the strengths and weaknesses of an educational environment. Future research can investigate other correlates of PHEEM, conduct more interventional studies and measure longitudinal changes in an educational environment.

D2087

EVALUATION OF A SIMULATION WORKSHOP TO TRAIN PRIMARY CARE DOCTORS TO INSERT INTRAUTERINE CONTRACEPTIVE DEVICE

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Aims

Insertion of intrauterine contraceptive device (IUCD) is one of the core competencies of a family physician. The procedure is one of the services provided at Singhealth Polyclinics. The Women's Health Workshop was initiated to provide structured training for doctors who are new to the polyclinic. At the workshop, simulation of the procedure was carried out with the aid of anatomical models. Besides training of IUCD insertion procedure, other areas covered in the workshop included that of Pap smear taking and interpretation of Pap smear results.

Our study aims to evaluate the effectiveness of a simulation workshop to insert IUCD for doctors in primary care.

Methods

A retrospective analysis of the feedback that had been collated for the workshops conducted in 2014 and 2015 was performed. Participants of the workshop included medical officers who were new to the polyclinic as well as first and second-year family medicine residents. Pre and post workshop surveys had been given to the participants before and after the workshop respectively. Information about the participants' previous experiences in the procedure was gathered.

Participants rated their confidence level in performing the insertion of IUCD using a 10-point scale before and after the workshop. Overall experience after the workshop was recorded using a 5-point Likert scale.

The study received Singhealth Centralised Institutional Review Board (CIRB) exemption, CIRB Ref: 2015/2662

Results

A total of 37 out of 44 participants completed the survey. The response rate was 84%. The median score for confidence level in performing the procedure increased from 2 (IQR 1 to 5) before the workshop to 8 (IQR 7 to 9) after the workshop. Using the Wilcoxon Signed-Rank non-parametric test, the increase in median score for the confidence level was statistically significant ($p < 0.000$).

The increase in confidence level was most pronounced amongst the participants with no previous experience with the procedure. The increase in confidence level remained significant for participants who have inserted 1 or 2 IUCD before the workshop. Participants rated a median score of 9 (IQR 8 to 10) in their interest level to perform the procedure after the workshop.

The overall experience of the workshop recorded a median score of 5 using a 5-point Likert scale.

Conclusion

Bedside procedural training has been challenging due to multiple factors including the lack of adequate numbers in individual clinics, the unpredictability and difficulty with logistic arrangements with walk-in patients. The teaching of the procedure via a structured workshop format including a simulation of the procedure using anatomical models increases the confidence level and desire of participants to perform the procedure. An interval evaluation to determine the number of procedures performed by participants of the workshop will be useful to evaluate if the workshop shortens the time needed to achieve competency in the procedure. A similar format can be employed in the teaching of common procedures in primary care.

IMPROVING MEDICAL TEACHING IN DEVELOPMENTAL CARE AND FAMILY-CENTERED PRACTICE USING THE BRAZELTON TOUCHPOINTS APPROACH

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Aims

Family-centered practice has been emphasized within pediatrics as an important aspect of care provision. A strong alliance with the family leads to improved clinical decision making, and optimal child health and development outcomes.

With the current paediatric curriculum, three training gaps are identified.

1. Traditional teaching focuses on the physician rather than the parent as the expert on the child, leading to a prescriptive and not a collaborative process of clinical care.
2. Physicians lack training in supporting parents in mastery, which is integral in enhancing parenting confidence and competence.
3. Little attention is placed on understanding the social-emotional development of children and giving of anticipatory guidance-- though this knowledge is essential in supporting parents through challenges at specific development time-points.

A training programme that fulfills the above gaps is essential to train future paediatricians. Brazelton Touchpoints is a researched curriculum developed at Harvard Medical School, which we brought in as a unique curriculum advantage for residents within NUHS pediatric residency program. Touchpoints training covers the developmental model where physicians help parents to understand their child's behavior. It also covers a relational model based on 8 guiding principles and 6 parent assumptions for professionals to respect families as equal partners in shared, care-giving relationships.

Methods

Residents were trained over 2 full days (total 16 hours). Teaching methodology included real-life demonstrations, large group work, small group work, skills building exercises and role plays, which were novel in delivery and themes. Six compulsory monthly post-training mentoring sessions were also important in the reflective process where participants shared family encounters, utilization of approach, with all sessions facilitated and reflected with trainers. The teaching was opened to all professionals including allied health groups, although the findings here reflect residency ratings in the pilot run. Residents were surveyed pre and post-training using ACGME competency ratings, and extra information on knowledge and descriptive feedback were also obtained. T-tests were performed to compare competency rating scores pre and post-training.

Results

Nine residents were surveyed. The percentage of residents who moved into higher ACGME competency ratings post-training in the overall areas of professionalism (PF), communication skills (CS), medical knowledge (MK) on child development, patient care skills (PC), practice-based learning (PBL) and teaching and systems-based practice (SBP) were 67%, 67%, 33%, 44%, 11% and 44% respectively. T-tests showed significantly improved competencies in every competency area: PF 3.63 vs 5.22, p= 0.008; CS 3.75 vs 5.22, p= 0.003; MK 3.50 vs 4.56, p= 0.029; PC 3.63 vs 4.78, p= 0.024; PBL 3.38 vs 4.44, p= 0.004; SBP 2.88 vs 4.22, p= 0.005. More than 50% of participants found real-life demonstrations, small group work, and role play "very useful", as compared to large-group work or skill-building exercises. Most participants found the training "useful"/"very useful" in domains of understanding child development (78%), social-emotional development (89%) and ability to talk to families regarding their children's developmental concerns (78%).

Conclusion

Brazelton Touchpoints teaching demonstrated significant positive outcomes among residency physicians and should be recommended as a core training module in paediatric training.

NYEGBO! ROTE-LEARNING - BREAKING DEPENDENCE IN A RESOURCE POOR ENVIRONMENT

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Aims

Rural Sierra Leone is an extreme low-resource environment. Masanga Hospital, Tonkolili District has a small school of nursing, training locals in basic nursing skills to provide staff for the hospital. Inevitably, as in any resource-poor environment, there is great dependence on rote-learning. This is a useful technique and creates a body of staff with excellent theoretical knowledge but, by observation, with poor communication and practical skills.

A small multidisciplinary team visited the hospital, providing a number of short modules all based on activity and communications skills with a view to improving practical skills generally and encouraging staff to move out of their comfort zone of rote learning and recital of memorised material.

Methods

Modules offered included the core 2 day Communication Skills Course previously provided to the nursing assistants of the hospital (Presented at APMEC 2012). Add-ons included Basic Life Support, Sex Education and Contraception, Hand Hygiene, Poster Design and a Debate on the topic, This House believes that Health Care for Children is More Important that for Adults. Attendance was optional, there were no formal assessments but those who completed any module were given a certificate of attendance. Although some traditional didactic teaching was used, focus was on active learning and participation. Learning materials were designed to include no or minimal information that could simply be memorised - all learning materials were interactive requiring the learner to add to the notes or diagrams before the information was complete.

Results

The enthusiasm of the participants was impressive - multiple sessions were offered and most attended all modules in their own time, sharing shifts to allow each other maximum opportunities. The fortnight culminated in the debate, preceded by attendees joining together to dance and celebrate their achievements. Their excitement and pleasure in the opportunities we gave them was, in the short term, a great reward.

Conclusion

Unfortunately, Ebola Fever struck Sierra Leone only 3 weeks after the teaching team returned to the UK and so formal follow-up has not yet been performed. Once the hospital reopens and the country is safe, we will return, initially for a short visit to review local staff opinions of the modules offered, both the permanent teaching staff and those who joined in the activities. An important topic for discussion will be the role of assessment in some of the modules. Ultimately, Basic Life Support, the Hand Hygiene module and the 2 day, pre-existing Communications Skills Course will be delivered by local teaching staff and suitable training will be provided as part of a longer visit, again offering a variety of modules to the nursing staff. The poster project will need the most modification to make it truly useful but, broadly, the modules were so well received by the participants that a similar intensive teaching programme seems to have great potential as Sierra Leone gradually rebuilds its healthcare skills-base.

D2090

USING TECHNOLOGY TO TRACK LEARNING OUTCOMES

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Aims

Tracking learning outcomes is a challenge for many faculty. Using currently available technologies, we at Western University have been able to affordably and quickly implement a real-world technology solution to track learner outcomes. Our team has been able to achieve 100% faculty buy-in to the tagging of exam questions despite the added challenge of all courses being team-taught with as many as 25 teaching faculty per course. We will share our experiences, triumphs, and challenges, so that your institution may immediately and successfully begin to implement technology to track learner outcomes.

Methods

By using Microsoft SharePoint and ExamSoft along with an in-house developed academic progress web-site, we have been able to tag 100% of multiple choice exam questions to each of the institutional and program learning outcomes. In addition, we can easily relay the data to the faculty and even to the individual students. In so doing, faculty advisors and students can review student progress in a real-time fashion. Along those lines, students can quickly identify their weaknesses and potentially alter their study strategies.

Results

Because of the simplicity of the technology, we have been able to achieve 100% faculty buy-in to tagging their exam questions and also, the data generated and insights gained through these systems greatly facilitates our ability to track learning outcomes and allow us to establish continuous improvement feedback loops at the institution, program, course, faculty, student, and curricular levels.

Conclusion

At the conclusion of our program, participants will walk away with shared knowledge, understanding, and insight regarding: 1) why our College chose the technologies that we did; 2) the challenges our College faced with faculty and staff regarding the actual "go-live" of the technology to track learner outcomes; and, 3) how we are using technology to track learner outcomes to facilitate our accreditation cycles.

AN ACTIVE LEARNING APPROACH FOR STUDENT: PRACTICE PRACTICAL

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Aims

Most of the traditional practical sessions offered in the undergraduate life sciences modules are designed such that to complete the experiments, students are only required to follow the instructions (step-by-step protocol) provided during the session itself. There are a few pedagogical drawbacks with such a step-by-step approach. For one thing, students do not have the chance to plan and think in depth about their experiments, nor are they able to exercise their creativity during the practical session. Such an approach provides limited opportunities for students to think about the problem associated with the practical and how to adopt a proper experimental approach to formulate a solution. In short, they may not know how to apply the skills they learnt in the practical session to solve a real-life problem.

In order to address these associated issues, I introduced the concept of Practice Practicals for one of the topics during the module's practical sessions. The term "Practice Practicals" simply means that students acquire their technical knowledge and skills through the process of formulating and executing their own experiments independently. Practice Practicals aim to give students the opportunity to participate actively in formulating their experiments during practical sessions in order to solve a real-life problem.

Methods

Two different cohorts of undergraduate students (n=240) participated in this study, which was conducted over two academic years from AY2011/12 to AY2012/13. An evaluation of the effectiveness of Practice Practicals was done via a short survey which students had to complete after they had submitted their laboratory reports for assessment and grading. They had to indicate their level of agreement to a series of statements on a 5-point scale, ranging from "Strongly Agree" to "Strongly Disagree". The survey form also included two short questions in which students had to give their comments about the strengths of Practice Practicals and possible areas of improvement.

Results

According to the survey results, 66% of the respondents agreed that the Practice Practical session was interesting and stimulating. This is an encouraging response as students can be shy when it comes to participating in class discussions or sharing their ideas (Shim, 2006). However, in this case, only 1.5% of the respondents indicated that they felt uncomfortable about sharing their thoughts and opinions during the discussion portion of the practical. Indeed, I noted active class participation amongst students during the group discussions.

In addition, 72% of the respondents mentioned that the Practice Practical session helped stimulate their interest in the subject and it encouraged them to read more about the topics and the relevant technologies. This response is a good indication that self-directed learning is taking place amongst students due to the session.

Conclusion

Based on the quantitative and qualitative feedback gathered, we can conclude that the majority of students responded positively to Practice Practicals, agreeing that the sessions were interesting and stimulating. This approach was also useful in enhancing the student's research and technical skills.

INTERDISCIPLINARY VIDEO VIGNETTES AS AN APPROACH TO LEARNING CLINICAL COMMUNICATION SKILLS

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Aims

Good communication with patients and other professionals of the health care community is necessary for effective healthcare in the community. Effective communication results in patients being more satisfied with their care, have better understanding of their medical conditions, investigations and treatment options. Both the patients and health professionals wellbeing is improved. Good communication therefore is a key requirement for inter-professional dialogue and understanding.

Current medical curriculum may encompass generic communication skills with the use of video consultations as well as discipline specific skills. Medical students gain communication skills in rotating through different disciplines and exposure to specific consultation scenarios requiring advanced skills are often gained in an adhoc way. This innovative approach develops communications skills in a progressive way to internship and across all specialties.

Methods

An interdisciplinary working group for communication skills was set up and reached consensus on communication skills learning domains.

A framework was created using these 12 domains. Current teaching and learning needs assessment was performed across 8 medical disciplines. Contributions were also made by nursing and pharmacy colleagues. An e-learning curriculum was developed which incorporates video vignettes using a transformative learning process and student e-assessments and roleplays.

Results

The process in developing the e-learning interprofessional curriculum would be shared in the oral presentation. In addition, the rationale for the e- learning curriculum based on learning and teaching needs would be highlighted as well as the outline of the e-learning curriculum.

By the conference date in January, we should already have some examples of the video consultations. The e-learning curriculum will be completed by July 2016.

Conclusion

This oral presentation hopes to engage medical educators in discussing how to teach and how students can learn clinical communication skills throughout the medical curriculum and across disciplines.

E-POSTER PRESENTATION – SESSION 6

STATION 1

D2093 **Engaging with Student Feedback in an Effective Collaborative Method to Drive Curriculum Improvement: A Case Study**
Claire Ann Canning, Singapore

D2094 **A Structured Methodology for Innovative Item Design in Complex Disciplines**
Brad Wu, United States of America

D2095 **Prioritizing Service Quality Dimensions Towards Faculty Development: A Case of a Sri Lankan Medical School**
Dilmini Karunaratne, Sri Lanka

D2096 **Creating a US-China Global Classroom: Providing Collaborative Teaching Opportunities for U.S. and Chinese Students**
Yang Li, China

D2097 **Objective Assessment of Junior Ophthalmology Residents' Phacoemulsification Surgical Training Using ICO-OSCAR**
Charles Ong, Singapore

D2098 **Patterns in Clinical Students' Self-Regulated Learning Behavior: A Q-Methodology Study**
Joris Berkhout, Netherlands

D2099 **Identifying Barriers in Behavioural and Social Sciences Education in Medical Schools in India**
Sivan Yegnanarayana Iyer Saraswathy, India

D2121 **How Does an Explicit Professionalism Curriculum Affect Medical Student Attitudes Towards Professionalism?**
Julie Chen, Hong Kong S.A.R.

D2122 **Training Vietnamese Diabetes Specialists in Facilitation Methods as Part of a Train-The-Trainer Programme in Diabetes Management**
Jane Voigt, Denmark

STATION 2

D2100 **Students' Feedback on the Pediatric Undergraduate OSCE at Kuwait University**
Dalia Al-Abdulrazzaq, Kuwait

D2101 **Flipped Classroom Model for Teaching and Learning in Medical Microbiology**
Vindya Perera, Sri Lanka

D2102 **Use Quantitative Indicators to Monitor the Performance of Teaching Hospitals Performed "2-Years Medical Staff Training Programs" in Taiwan**
Yang Chia Jui, Taiwan

D2103	**"Primary Care Lecture Series" -Ten Years of Running Online Videoconferences Connecting Hospitals and Clinics Throughout Japan-** *Shinji Kimura, Japan*
D2104	**The Educational Needs of Nurses Working in a Tertiary Eye Hospital in Singapore** *Aw Ai Tee, Singapore*
D2105	**Fracking the Consultation Process** *Joergen Nystrup, Denmark*
D2106	**Assessing the Efficacy of Innovative Strategies and Teaching Methods in Pharmacology** *Kenneth Chin, Singapore*
D2123	**The Use of Standardised Patients as Part of Physiotherapy Clinical Education** *Lim Ei-Ping Audrey, Singapore*

STATION 3

D2107	**Patient Awareness about Anesthesiologists' Role** *Harivelle Charmaine Hernando, Philippines*
D2108	**Implementation and Evaluation of a Student Centered Learning Method for Lectures in Pharmacology** *Ashwini de Abrew, Sri Lanka*
D2109	**Medial Students' Views on Application of Problem-Based Learning Specifically in History Taking Curriculum** *Wu Fan, China*
D2110	**Implementing Interactive Rubrics- A More Effective Method of Assessing Psychomotor Skills** *Patricia Camberos, United States of America*
D2111	**Enriching Lecture Videos and Webcast with Digital Tags to Promote Active Learning** *Judy Sng, Singapore*
D2112	**Virtual Reality Simulation in Developing Arthroscopic Skills** *Zackary Chua, Singapore*
D2113	**So You Want to be a Psychiatrist? Psychiatry as a Medical Specialty in the Eyes of Medical Students in Hong Kong** *Andrew CK Law, Hong Kong S.A.R.*
D2125	**An Instrument to Measure Medical Students' Perceptions of the Assessment Environment: Development and Initial Validation** *Sim Joong Hiong, Malaysia*

STATION 4

D2114	**Medical Students' Perception on Ward Rounds** *Threebhorn Kamlungkuea, Thailand*
D2115	**Factors Related to the Subjective Characteristics of Interprofessional Working in a Tertiary Care Unit: A Cross-Sectional Study** *Shuhei Ichikawa Japan*

D2116	**Applying the Flipped Classroom to a Large Heterogeneous Discipline Class**
	Isabel Hwang, Hong Kong S.A.R.
D2117	**Lessons Learnt from Changes Made to a Collaborative Curriculum: A Qualitative Analysis**
	Jaita Mukherjee, United Kingdom
D2118	**Obtaining Actionable Feedback to Provide Improvement in Residency Training**
	Thazin Han, Singapore
D2119	**Development and Implementation of Inter-Professional Education (IPE) Model for Healthcare Undergraduates in University of Colombo, Sri Lanka**
	Gominda Ponnamperuma, Sri Lanka
D2120	**Innovative Patient Safety Curriculum Using IPad Game (PASSED) Improved Patient Safety Concepts in Undergraduate Medical Students**
	Alfred Kow Wei Chieh, Singapore
D2126	**Medical Undergraduates' Perspective of Portfolio as a Learning Tool: Faculty of Medicine and Allied Sciences, Rajarata University of Sri Lanka**
	Shamalee Wasana Jayarathne, Sri Lanka

ENGAGING WITH STUDENT FEEDBACK IN AN EFFECTIVE COLLABORATIVE METHOD TO DRIVE CURRICULUM IMPROVEMENT: A CASE STUDY

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Aims

The aim of the study was to engage with student feedback within a quality improvement cycle to enhance the materials provided to students as part of an innovative pedagogy which adopts a flipped classroom learning experience. This was in the context of an undergraduate curriculum at a new medical school, Lee Kong Chian School of Medicine, a joint initiative between Nanyang Technological University, Singapore and Imperial College London (ICL). Following the successful completion of teaching Year 1 students in the inaugural cohort, we focused on how we could engage with student feedback to review and enhance the first year curriculum materials.

Methods

Course evaluation feedback was collected using a multiple snapshot approach. Different groups of students were asked to provide feedback on the preparation materials. The preparation materials consisted of Voice-over PowerPoint files (VOPPTs). The process used for one module (Immunology) is presented as a case study to illustrate an effective collaborative process of curriculum improvement.

All feedback was reviewed by the faculty in charge of the module of the curriculum and those involved in the teaching. Faculty also conducted a parallel review of the VOPPT material. Both student and faculty feedback was then evaluated to inform decision making around changes to improve the material so that the student learning experience could be enhanced. As a joint medical school, curriculum experts at ICL independently reviewed the student feedback and the preparation materials. The next step involved all faculty and curriculum experts at both universities working collaboratively on desired enhancements. Following this, faculty were identified to rework the material and record new VOPPTs. This also involved a change of format from VOPPT to interactive face-to-camera lecture presentation using Camtasia. The reworking of the material was prioritised so that it could be provided to students for revision purposes, prior to their end of year exam.

Results

Subsequent feedback with the same cohort of students who used the VOPPTs for revision purposes was extremely positive. Feedback from the following cohort was also positive, confirming that the VOPPTs had been improved from a learning perspective. Student's commented positively on aspects such as clarity of the learning material and organisation of concepts.

Conclusion

Faculty were able to review and act collaboratively on student feedback to improve curriculum material. Students engaged in active provision of feedback and could see a direct connection between their feedback and enhanced curriculum materials. Further, the inaugural cohort have conveyed to the subsequent cohort the importance of providing constructive feedback, which is taken on board by faculty and appropriately responded to, for the purposes of quality improvement. This has reinforced student engagement with providing course evaluation feedback.

A STRUCTURED METHODOLOGY FOR INNOVATIVE ITEM DESIGN IN COMPLEX DISCIPLINES

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Aims

Define the test construct that can specify explicitly the knowledge, skills and abilities needed for competent performance.

Methods

This presentation discusses a novel approach to construct definition and innovative item design that is based upon the user-story technique used in Agile product development methodology to create functional specifications for software. To facilitate more principled and intentional thinking about test constructs, Subject Matter Experts are guided through an analysis of the construct needs for innovative item design using the creation of user stories which translate test blueprints into measureable tasks. Follow-up steps include item storyboarding and development of prototypes from the storyboards. Lastly, Subject Matter Experts evaluate the prototypes against criteria that consider all aspects of a CBT test item: For example, how will performance on the task be evaluated and scored? How will the test taker navigate to and through the item? Are stimuli required to complete the task and, if so, what and how should be stimuli best be presented?

Results

What does a test developer need to know about the test taker? Defining the test construct is a fundamental step in designing any type of assessment. The test blueprint is the operational definition of the construct and guides test development efforts. And yet, particularly for complex fields such as medicine, it can be very difficult to specify explicitly the knowledge, skills and abilities needed for competent performance. Furthermore, there may be certain aspects of the test blueprint that are difficult to assess through traditional assessment methods. To tackle this second point, the technology of computer-based testing (CBT) opens up a myriad of possibilities regarding the design of assessments and items within assessments. However, technology is not the sole answer to better measurement. All items, regardless of how innovative and sophisticated they are, must meet the construct intent to be successful assessment tools.

Conclusion

This approach to innovative item design is built on two philosophical cornerstones: (1) the test construct and what is being measured are at the heart of well-designed test items, and (2) items should be considered as the sum of component parts - these components include navigation and delivery, evaluation, selection and ordering, and configuration as well as presentation. Through this approach, an evidentiary pathway from the test construct to the operational definition of that construct is created to support content-oriented validity of the resulting assessment.

PRIORITIZING SERVICE QUALITY DIMENSIONS TOWARDS FACULTY DEVELOPMENT: A CASE OF A SRI LANKAN MEDICAL SCHOOL

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Aims

During the last two decades the education sector around the globe was challenged with the need for market orientation in education delivery as a consequence of heightened competition among education institutions and escalating student demands for quality education. This has resulted in many educational organizations to concentrate more on the quality in academic and non-academic services offered to their students more than ever before. Although late to adopt, the same trend has emerged in the developing countries in the recent past.

Service quality measurement creates a platform for making informed decisions on service quality improvements which will invariably have a positive impact on the institution and its stake holders. Therefore this study examined medical undergraduates' perceptions of service quality gaps in selected areas of student support services in a state medical school in Sri Lanka and the influence of student demographic factors on service quality ratings.

Methods

A quantitative study was conducted using the SERQUAL questionnaire, which is a self administered questionnaire. It is a multiple item scale measuring student expectations and perceptions on service quality along a 7 point likert scale under five dimensions: tangibles (physical facilities, equipments and appearance of personnel), reliability (ability to perform the promised service dependably and accurately), Responsiveness (willingness to help students and provide prompt service), assurance (knowledge and courtesy of employees and their ability to inspire trust and confidence), empathy (caring individualized attention the institution provides its students). Cronbach's alpha, descriptive statistics, t-tests and ANOVA were used to analyse data using SPSS 14.0 software.

Results

The mean student perception scores for all service quality attributes measured by the tool were lower than the respective expectation scores, indicating a negative service quality gap. Highest service quality gaps were in tangibles dimension followed by reliability, assurance, empathy and responsiveness. Service quality perceptions on selected dimensions also differed significantly across gender, living setting (urban/ rural) and student seniority. Student perceptions towards reliability and empathy significantly differed across gender, male students perceiving higher than their female counterparts. Student perceptions on tangibles and reliability also differed significantly among urban and rural students, rural students perceiving lower than urban students. Student perception and expectation scores for all dimensions significantly differed according to seniority. Mean student perception and expectation scores were reduced with advancing seniority; highest scores for both expectations and perceptions were among most junior students and lowest among most senior students. Therefore the most significant service quality gaps were identified among female students from rural areas who were in their final couple of years of study.

Conclusion

The quality of student support services provided by the medical school does not meet the expectations of medical undergraduates. This has resulted in negative quality gaps for all dimensions measured by the SERVQUAL tool, highlighting the necessity to implement quality improvement initiatives to alleviate quality gaps. Therefore this tool can be considered by all learning organizations to broaden their understanding of the existing learning environments which may be limited to quantity measures with quality ratings.

D2096

CREATING A US-CHINA GLOBAL CLASSROOM: PROVIDING COLLABORATIVE TEACHING OPPORTUNITIES FOR U.S. AND CHINESE STUDENTS

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Aims

In order to develop cultural competency, a collaborative international teaching program was engaged both at University of Kentucky College of Pharmacy (UKCOP) and Peking University Third Hospital (PUTH).

Methods

This teaching curriculum was setup based on the various topics which would be interacted with different cultures and languages in two countries, and this course "Pharmacy without Borders: A US-China Global Classroom" was initiated as an elective course in Spring 2014, which could be implemented in the current curriculum. The interactive class was taught collaboratively by both Universities' faculty. The teachers for each course working as a paired group with a primary teacher and a secondary teacher, usually gave the large group lectures first and then discussed the cases in small groups to show the different practice in some therapeutic areas respectively. The course content was combined both online-recorded lectures and live lectures by faculty from the two universities. For each hot topics, the faculty and the students from both universities should work together and had a hot live discussion in the class with the IT technique support. When the students finished all the courses, the cultural competency and the success of this course could be measured by using a student survey to collect the feedback from both students and faculty.

Results

The topics were various and helped the students to address different healthcare- and pharmacy-specific applications. This course helped students to gain the direct cross-cultural perspectives on common therapeutic problems and to understand the differences in culture and pharmacy education program between the two countries. There was a quiz after each course. In order to prepare the final presentation topics, the U.S. students and Chinses students should communicate within the group and learn how to collaborate with each other in a different country and time zone. Students tried to find a method of communication to work on a collaborative project with a large time difference and initially. They used efficient social media like Skype to solve the communication barriers. Another significant skill acquired in this international course was learning how to communicate with a language barrier. Sometimes non-verbal communication also played an important role in the conversation. All of these actions helped the students from both universities to understand, communicate with a patient from another culture.

Conclusion

This course would be designed specifically for inclusion in the "new" curriculum by using an IT technology and procedural troubleshooting method. Until now this course has been successfully held twice since 2014, we are expecting to improve and implement of the Global Classroom in the future and to adopt a similar learning strategy into other areas such as research for both students and faculty.

D2097

OBJECTIVE ASSESSMENT OF JUNIOR OPHTHALMOLOGY RESIDENTS' PHACOEMULSIFICATION SURGICAL TRAINING USING ICO-OSCAR

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Aims

Phacoemulsification cataract surgery is an essential skill to master in Ophthalmology. Various methods, such as the Objective Assessment of Skills in Intraocular Surgery (OASIS), and Global Rating Assessment of Skills in Intra- ocular Surgery (GRASIS), have been described to objectively assess the surgical proficiencies of a cataract surgeon. To date, however, limited studies have been conducted to assess the clinical utility of the ICO-OSCAR:phaco as an assessment and feedback tool to help enhance the phacoemulsification training among Ophthalmology trainees. This study aims to determine the usefulness of ICO-OSCAR:phaco in assessing the initial learning curve of junior Ophthalmology residents' for phacoemulsification surgeries.

Methods

This is a single-centre prospective descriptive case series involving nine Ophthalmology residents (3 third-years and 6 second-years) at the Singapore National Eye Centre. A total of 319 procedures was performed by these residents between 1st August 2014 and 22nd January 2015. They were assessed by cataract senior mentors using the ICO-OSCAR:phaco - a 20-step objective assessment tool. All data analyses were performed using SPSS version 20. The relationship between the number of surgeries and ICO-OSCAR:phaco score was evaluated using the one way ANOVA trend analysis.

Results

In our study, the number of surgeries performed has a significant linear trend with the mean ICO-OSCAR:phaco score ($p < 0.001$). The mean score of the first 5 phacoemulsification procedures performed for all the residents was 68.40 ± 12.98. The mean number of cases required for all residents to achieve 2 or more consecutive scores >85 was 19.33 ± 5.10. The third year residents needed less cases than the second year residents to achieve the scores of >85 (21.67 ± 3.39 vs 14.67 ± 5.13, $p = 0.04$). The mean score of the 5 phacoemulsification procedures for all residents starting from the 20th was 80.82 ± 8.41. Mean scores for third year residents (n=121) were higher than the mean scores for second year residents (n=198) (83.78 ± 9.74 vs 74.23 ± 13.75, $p < 0.001$).

Conclusion

The ICO-OSCAR:phaco score is a useful tool to objectively assess the junior Ophthalmology residents' learning curve for phacoemulsification surgeries in our center. On average, they were able to consistently score 85 and above from their 20th phacoemulsification procedure on. Additionally, the skills-based rubric assists both the trainer and trainee in identifying areas of improvement.

PATTERNS IN CLINICAL STUDENTS' SELF-REGULATED LEARNING BEHAVIOR: A Q-METHODOLOGY STUDY

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Aims

Self-regulation is important because it has a positive effect on learning and is especially important for clinical students', because in the clinical environment students are expected to take control of their own learning, and learn more independently. However, little research has been done to understand how students self-regulate their learning in the clinical environment and how this process could be supported. In a previous study, we noticed large individual differences in clinical students' self-regulated learning behavior. (1) We wanted to explore this further and see whether patterns in students' self-regulated learning behavior can be identified, leading to our research question: what patterns can be identified in clinical students' self-regulated learning behavior and what are its most important characteristics?

Methods

We used the Q-methodology to answer our research question. (2) This methodology encompasses both qualitative and quantitative features and is developed for the systematic investigation of people's viewpoints. The Q-methodology enables quantitative analysis of more subjective issues, such as self-perceived SRL behaviors, by having participants sort statements. Afterwards, individuals with similar sorts are clustered together using a by-person factor analysis to create patterns. The resulting patterns represent shared ideas between individuals about the issue of concern.

We extracted the statements used in our study from interview data from a previous study and we used a theoretical framework to make sure all relevant aspects of self-regulated learning were covered in the statement set. (1) We enrolled clinical undergraduate students from one university in the Netherlands in our study, using purposeful sampling to represent variations in experience, age, gender and current clerkship. Participating students were given 52 statements describing self-regulated learning behavior in the clinical environment. They were asked to sort these onto a fixed-grid to represent how applicable each statement was to their learning behavior. Afterwards, students were asked to comment on the choices they made, to provide qualitative elucidation of the results from the factor analysis.

Results

74 students participated in our study. The by-person factor analysis identified five patterns in students' self-regulated learning behavior in the clinical environment: Engaged, Critically opportunistic, Uncertain, Restrained and Effortful, explaining 43% of the total variance. The five patterns varied mostly regarding goals, metacognition, communication, effort, and depending on external regulation.

Conclusion

Self-regulated learning behavior is the result of a complex intertwined interaction of individuals in their contexts. We were able to identify five distinct behavior patterns that are likely to require different forms of support to maximize learning. The resulting patterns closely resemble previously described 'paradigms' of James Marcia's identity status theory, which suggests that developing self-regulated learning behavior may be part of the development of a new identity as a clinical medical student.(3)

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D2099

IDENTIFYING BARRIERS IN BEHAVIOURAL AND SOCIAL SCIENCES EDUCATION IN MEDICAL SCHOOLS IN INDIA

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Aims

Teaching behavioural and social sciences (BSS) in medical schools is imperative for the effective scrutiny of social determinants of health ([SDH] which in a broad sense includes social, cultural, economic, political and behavioural factors). There are many challenges in implementing BSS education in medical schools. Studies on BSS education in medical schools, especially those on barriers are scarce. This study, which is India-focused, attempts to identify barriers in BSS education in medical schools using a framework.

Methods

Barriers in BSS education in medical schools were identified through a domain-based framework. The framework consists of components (domains) representing issues posing a barrier to BSS education. Review of the literature available in the areas of BSS and SDH education in medical schools was carried out to arrive at broad domains. Studies on BSS education from across (published in English language) the world which are available in the public domain were sourced, including those identified and obtained through cross-referencing. Key documents of international and national agencies including those of regulatory bodies were referred to understand as to what the system expects from (i) BSS (role of BSS in medical education) and (ii) a basic (general) medical graduate. Specific barriers in BSS education in medical schools under broad domains were identified.

Apart from this, the author's experience as a BSS faculty spanning over a decade, and perceptions were taken into account.

Results

The major barriers (in the form of obstacles, areas to be strengthened, lack of guidelines and resources) identified include curriculum, guidelines, training, human resource, time allotted and topics, educational strategies, teaching and learning resources, organizational matters, student assessment, programme evaluation for continuous quality improvement and recognizing the need for BSS education.

Conclusion

Identifying barriers in BSS education in medical schools using a domain-based framework brought to light important areas that call for the attention by medical educators and regulatory bodies. Results of this exercise based on review of scantly available literature and individual perceptions call for generating empirical evidence in understanding current practices and barriers in BSS education in medical schools.

D2121

HOW DOES AN EXPLICIT PROFESSIONALISM CURRICULUM AFFECT MEDICAL STUDENT ATTITUDES TOWARDS PROFESSIONALISM?

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Aims

Though the informal and hidden curricula are instrumental in shaping students' attitude towards professionalism, some formal curricular elements may also have an impact. The aim of this study was to investigate how student attitudes towards medical professionalism are affected during the early years of medical school after a formal professionalism curriculum was implemented.

Methods

This was a mixed-method quantitative-qualitative study. The study population comprised two cohorts of students (n=420) admitted to medical school in the 2012-13 academic year. Only the "new curriculum" cohort had a professionalism curriculum within their programme of study. Study participants completed a professionalism attitudes questionnaire and focus group interviews. Within- and between-cohort comparisons were made using the paired t-test or repeated measure ANOVA, and the independent t-test respectively. Interviews were transcribed and analysed for recurrent themes.

Results

The questionnaire response rate was 54% (217/402). Both cohorts had better attitudes towards clinically-oriented aspects of professionalism over time. However the "new" cohort had a more positive change in attitude regarding balance in work and personal life compared with the "old" cohort. Interviews revealed that role modelling, clinical contact and service learning affected student attitudes towards professionalism.

Conclusion

A humanistic emphasis in the curriculum may have a positive impact on student attitudes towards professionalism. Medical students in their early years also realize the contextual nature of professionalism which should be discussed explicitly in the curriculum and further explored going forward into the clinical years.

D2122

TRAINING VIETNAMESE DIABETES SPECIALISTS IN FACILITATION METHODS AS PART OF A TRAIN-THE-TRAINER PROGRAMME IN DIABETES MANAGEMENT

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Aims

The Vietnamese Association of Diabetes and Endocrinology and Steno Diabetes Center, with Ministry of Health support, deliver a train-the-trainer programme to build diabetes treatment capacity. In this model, an annual 2-day course is delivered to a group of endocrinologists (the 'trainers'). These doctors then form the faculty for a national training programme on evidence-based diabetes management for general practitioners and internal medicine physicians. In addition to diabetes management topics, various pedagogical methods, with an emphasis on participant interaction, sharing a constructivist approach to learning, were introduced to facilitate further training of healthcare professionals (HCPs). Here we present results from the training of endocrinologists (the 'trainers').

Methods

Quantitative and qualitative methods were used to gain information on participants' background and experiences, and to place results in the appropriate context. Participants completed a pre-course questionnaire regarding their clinical practice, and two post-course questionnaires; one regarding their personal benefit from the course (5-point Likert scale); and another regarding individual learning experiences and potential barriers to implementation of the national training programme. Observations were conducted to determine the local approach to facilitation methods. A follow-up focus group interview with a subgroup of participants explored learning experiences and their application in practice.

Results

Data were available on 88 of 91 participants. 64% were endocrinologists, while 31% were general physicans. Most (81%) had been in clinical practice ≥10 years, 74% practiced in an urban setting. 93% rated their personal benefit from the course at 4/5 or greater.

The questionnaire showed a preference for group discussion as a training method, with most respondents (61%) describing this as the most relevant learning experience in this course, while 58% also described using this as a training method when educating others. However, group work observations identified primarily passive teaching methods.

The focus group interview showed doctors attending the train-the-trainer course were highly motivated for participating in their own training, and initiating further HCP training. It identified challenges in conducting local training; contextual factors such as limited time and resources, and logistical challenges, emerged as common barriers to effective training.

Conclusion

These results demonstrate the feasibility of engaging senior clinicians as trainers in upskilling other HCPs in diabetes management. Trainers are prepared for providing this training when motivated, trained systematically and inspired to use interactive training methods.

Observation demonstrated need for increased participant engagement in group work. Active facilitation techniques were discussed, and co-facilitation between local and external trainers ensured this was tailored to the local context. The training questionnaire and focus group interview indicate that participants valued discussion of varying pedagogical methods.

Clinically relevant, interactive approaches to training are vital for effective training of general physicians in diabetes management. Continued focus on addressing time and resource barriers is essential to ensure programme effectiveness.

STUDENTS' FEEDBACK ON THE PEDIATRIC UNDERGRADUATE OSCE AT KUWAIT UNIVERSITY

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Aims

The Faculty of Medicine at Kuwait University had implemented the Objective Structured Clinical Examination (OSCE) during the academic year 2005. Since then, the Department Of Pediatrics had initiated and modified the OSCE as a method for formative and summative assessment for undergraduate trainees. This study was conducted to explore the students' feedback on the OSCE as a part of an evaluation for the Pediatric Undergraduate training.

Methods

A self-administered questionnaire was completed by undergraduate trainees after completing their final Pediatrics OSCE exam during the academic year 2013-2014. Main outcomes explored were comprehensiveness, authenticity, transparency, process, validity and reliability of the OSCE as an assessment tool. Students' responses were graded according to a 3-point likert scale.

Results

Seventy-nine students completed the questionnaire (86.0%) after the final Pediatrics OSCE. From the students' perspective, the exam was comprehensiveness as it covered a wide range of knowledge and clinical skills in pediatrics (79.7 % and 84.8% respectively) and was a fair exam (69.6%). In regards to exam transparency, 83.5% of the students were aware of the exams nature, 87.3% had clear instructions to the exam process and 81.0% felt that the exam reflected the objectives required for the rotation. Most of the students perceived the exam as being authentic (69.6%) and that having real patients helped in improving the authenticity of the exam (79.7%). However, the students had split responses to the validity of the OSCE as a measurement of their knowledge and clinical skills in pediatrics (48.1% and 59.5% respectively agreed). Moreover, less than half of the students felt that the OSCE scores are standardized (45.6%). In spite of this, most of the students felt that the OSCE was a useful practical experience (69.6%). The students felt that the exam was a stressful (68.3%) and tiring (64.7%) experience.

Conclusion

Medical students at the Faculty of Medicine at Kuwait University accepted the Pediatrics OSCE as a comprehensive, transparent and authentic exam. However, there are concerns regarding the exam's validity and it being a tiring and stressful experience. Further evaluation and student participation in the development of assessment tools in Pediatrics will strengthen the process of undergraduate assessment in the faculty including OSCE.

D2101

FLIPPED CLASSROOM MODEL FOR TEACHING AND LEARNING IN MEDICAL MICROBIOLOGY

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Aims

Flipped classroom model (FCM), has had a major impact on student centered learning and is being adopted by many higher education faculties in their courses. This model, where lectures and homework elements of a course are reversed, allow students to engage in case-based, problem based, and team-based exercise strategies with their teachers. (Educause, 2012). In this model, teachers too are able to engage with their students and actually teach, rather than make speeches. (Prober et al, 2012)

The objectives of this study was to introduce FCM for learning clinical microbiology, and free class time for higher-order and more interactive lessons and to compare the outcomes of this model with lecture based traditional method of learning.

Methods

The Department of Microbiology, Faculty of Medicine, SAITM introduced this new model, to the fifth batch students, for 10 lectures in clinical microbiology. Five lectures were randomly selected and their power point presentations with quizzes were uploaded on a learning management system, one per week, for students to view, learn and assess themselves at their own pace and time. The remaining lectures were done in the traditional manner. Both online and traditional lectures were followed by small group discussions. Questionnaires were given to the students and their perceptions on the importance and effectiveness of the new model versus the traditional model was analyzed.

The performance of students in the final examination in Microbiology was analyzed by comparing marks obtained to answers on questions set on topics done in FCM with marks obtained to questions set on topics given as traditional lectures.

Results

Quantitative feedback from 50 students showed that 56% (28/50) agreed that the new model is important in medical education while 42% (21/50) did not. A combination of both methods was preferred by 54% (27/50). The students indicated that their level of IT knowledge (28%), preference for innovative techniques and student centered learning (18%) were important for success of FCM. Failure of the new system was attributed to conventional ideas of students regarding learning (12%), poor IT knowledge and more work for the students. (6%)

Student t test was used to analyze mean scores in the final assessment in Microbiology. There was a significant difference between the mean score of answers to questions on topics done with the new model and for those done in the traditional model. This was evident in 3 of the 4 examination components. (Table 1)

Assessment	FCM		Traditional model		P value
	Mean score	sd	Mean score	sd	
EMI	6.85	1.9	5.4	2.6	p<0.001
SEQ	57.6	17.5	41.6	21.3	p<0.001
OSPE	7.1	2.85	5.3	3.5	p<0.001
MCQ	4.6	1.4	4.5	1.5	P>0.001

Conclusion

Overall the marks obtained in the majority of the components of the final examination in Microbiology indicated that students performed better in areas covered by FCM. However noting the students preferences it would be best if a combination of FCM and traditional lectures are adopted for learning clinical microbiology.

D2102

USE QUANTITATIVE INDICATORS TO MONITOR THE PERFORMANCE OF TEACHING HOSPITALS PERFORMED "2-YEARS MEDICAL STAFF TRAINING PROGRAMS" IN TAIWAN

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Aims

The Ministry of Health and Welfare (MOHW) of Taiwan planned a "2-years medical staff training programs" for medical staff to connect the clinical education between school education and post-graduation. That supported and reimbursed each teaching hospital in executing the training programs for post-graduate medical staffs since 2007. The Joint Commission of Taiwan (JCT) was entrusted to execute and assess with the "2-years medical staffs training programs" by MOHW. Since 2011, we attempted to establish quantitative indicators to monitor the performance of teaching hospital performed the training programs.

Methods

For promoting the teaching quality of trainees, we established a committee for designed the objectives and formulas of quantitative indicators. The members of committee were invited from medical professional groups and specialists. Based on the "Balance Scored Card", we classified these quantitative indicators under four perspectives, including: 1.Customer: C1- Trainee's questionnaire, C2-Instructor's questionnaire; 2.Internal processes: I1-The ratio of new trainees accomplished the pre-assessment, I2-The ratio of trainees accomplished post-assessment of every training phase, I3-The ratio of trainees accomplished the assessment in the end of training programs, I4-The ratio of instructors be assessed by multiple assessment; 3.Learning and growth: L1-The ratio of trainees performed inter-professional education training programs; L2-The ratio of hospitals performed the joint training programs. 4.Financial: F1-The ratio of instructors obtained education grants from the sponsorship by performed training programs; F2-The ratio of hospitals invested in teaching activities and equipment from the sponsorship by performed training programs.

Since 2011, the teaching hospitals performed programs sponsored by MOHW should report the actual values of each quantitative indicators in the program management system every years. We selected part of quantitative indicators (I1, I2, I3 and I4) for analyze the long-term trend of performance of teaching hospital performed the training programs, and the results were been feedback to teaching hospitals.

Results

Total of 133 teaching hospitals reported the values of quantitative indicators, including 22 medical centers, 87 regional hospitals and 24 district hospitals. The results showed that the values of each quantitative indicator were continuous increased during the period from 2011 to 2014. The increased rate of each indicator including I1, I2, I3 and I4 were 7.67%, 8.54%, 4.46% and 26.39% respectively. Among the indicators, I4 has the highest increased rate, especially in the group of medical center. All of the instructors of medical centers were been assessed by multiple assessment when performed the programs. The value of indicator I4 of medical center's group was 100%, the same results were appeared in indicator I3 in 2014. The highest ratio might be related to teaching hospitals itself resources and manpower.

Conclusion

The values monitored from quantitative indicators reported by all teaching hospitals were been a continuous increase trend until 2014. In addition to promote the teaching quality of trainees, the results demonstrate that teaching hospitals were been focused progressively in the development of multiple assessments of instructors assessed. The present study indicates that quantitative indicators could monitor the teaching performance and guide teaching hospitals to improve the teaching quality of its training programs continuously.

"PRIMARY CARE LECTURE SERIES" -TEN YEARS OF RUNNING ONLINE VIDEOCONFERENCES CONNECTING HOSPITALS AND CLINICS THROUGHOUT JAPAN

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Aims

Providing or receiving non-biased, quality continuing medical education (CME) / continuing professional development (CPD) can be difficult because of time constraints, one's geographical location, or cost. For approximately ten years we have been holding two weekly videoconferences over the Internet in order 1) to bring CME to colleagues dispersed over a wide area including rural and remote areas, 2) to possibly improve the quality of primary care in Japan, and 3) for the participants to share knowledge and experiences with other participants.

Methods

"Primary Care Conference (PCC)" and "Primary Care Lecture Series (PCLS)" are broadcast over the Internet every Wednesday and Thursday mornings, respectively, at 7:30 for thirty minutes. They are mainly geared toward generalist physicians in hospitals and clinics, but specialist physicians, nurses, pharmacists, other health professionals, and medical students also participate. Participants need to be registered beforehand to obtain an ID and a password. All that is necessary in order to participate is a personal computer connected to the high-speed Internet (and maybe a projector). After logging in, the computer screen shows the image of a presenter, a PowerPoint slide, and chat messages.

PCC consists of "Case-sharing Conference" every first and third Wednesday, "Case Quiz" every second, and a journal club every fourth. Participating hospitals and clinics take turns to present a case or an article. Discussions are done using chat messages; participants ask questions or make comments by sending chat messages and the presenter answers vocally. In PCLS, practical lectures on topics relevant to primary care are given by participating physicians taking turns, and discussions are done likewise. Handouts are posted on our website.

We use an application service called "V-CUBE Seminar (V-CUBE, Tokyo), which costs approximately 800,000 JPY (6,500USD) per year. It is paid for by Sapporo Medical University. PCC and PCLS are run on a voluntary basis; three physicians at Matsumae Community Hospital do the planning, promotions, rehearsals, and serve as host. Two other physicians elsewhere take care of the mailing lists and website. There is no charge for participation. There is no honorarium for presenters.

Results

PCLS started in May, 2004, and PCC in October, 2005. As of July 31, 2015, PCC has been held over 400 times, and PCLS 527 times. Only eight hospitals attended the first session. Currently, over 300 hospitals, clinics, and individuals throughout Japan ranging from metropolitan areas to remote islands are registered. Each session is attended by over 100 sites, i.e., over 300 medical professionals and students. While we do not have a formal evaluation, informal feedback from participants indicates they value the conferences' practicality, wide variety of topics and cases, real-time interaction, openness, nationwide attendance, high quality, lack of involvement of pharmaceutical companies. In addition the conferences seem to nurture collegiality among the participants.

Conclusion

PCC and PCLS have served many medical professionals throughout Japan, providing opportunities for CME/CPD regardless of participants' location. How they are meeting the educational needs of participants, or whether they are changing participants' behavior remain to be determined.

THE EDUCATIONAL NEEDS OF NURSES WORKING IN A TERTIARY EYE HOSPITAL IN SINGAPORE

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Aims

To describe the educational needs of nurses working in the largest tertiary eye centre in Singapore.

Methods

Mixed methods research design combining modified Hennessy-Hicks survey data amd qualitative data collected through focus group interviews.

Results

Nurses identified a number of areas of educational need including patient counselling ; contemporary and recent changes in symptom management, treatment and patient care; postoperative complications and specialist ophthalmic knowledge. Barriers to education were the timing of seminars and workshops and challenges associated with balancing work life commitments. Nurses also acknowledge that they were out of touch with other areas of ophthalmic nursing as they worked exclusively in one specialty.

Conclusion

Ophthalmic Nursing is a highly specialised area of nursing. Due to ageing populations gobally eye disease, especially chronic diseases such as diabetic retinopathy will increase. Ophthalmic nursing as a speciality needs to be underpinned by a solid foundation of professional development and international recognised education qualifications.

FRACKING THE CONSULTATION PROCESS

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Aims

Analysing the Consultation Process.

Methods

Breaking up the phases of the consultation process (SQU MED Journal 2010;3, 381-325) in objectives and theoretical guidlines.

Results

A general model for the consultation process between doctors and patients were published by Nystrup et al. in SQU MED Journal 2010;3,381-325.

In this paper I will describe the fracking possibilities in the model.

1. To start the consultation professionally the doctor must have knowledge about the health care system and alternative treatment offered including folkloristic cures. The doctor must show openness and interest.
2. In order to establish a doctor-patient alliance the doctor must study theoretical backgrounds for communication such as the psychoanalytical concepts: holding, containing and transference.
3. The doctor must be able to deal with different models of disease like psychological, social, biological and religious models.
4. Theory and skills about feedback in an emphatic frame is another challenge for the doctor.
5. Training in kind and diplomatic authority is necessary.
6. A successful negotiation between the doctor and the patient often depends on shifting of references in terms of expectations and professional counseling.
7. In order to overview the negotiation process it can be useful for the doctor to study cognitive theories concerning positive and negative thought patterns.
8. In the final conclusion the doctor must take into account quality assurance factors by arranging follow up visits or second opinions.
9. In order to avoid burnout and stress the doctor must study the etiology behind these conditions.

Conclusion

The consultation process is more than interview technic and skill. It is a complexity of theories weaved together.

D2106

ASSESSING THE EFFICACY OF INNOVATIVE STRATEGIES AND TEACHING METHODS IN PHARMACOLOGY

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Aims

"Teach a child what to think and you make him a slave to knowledge, teach a child how to think and you make knowledge his slave"

In Medicine, Pharmacology is an essential cornerstone. The current challenges in pharmacology are manifold. With the advent of evidence based medicine and advanced molecular therapeutics, the frequently changing paradigms brings a new dimension of challenges in medical education. Along with this, there are standards to be met in both academic and clinical competence.

Traditional pedagogy involved in teaching pharmacology involves the memorization of therapeutic compounds and their various properties. The transmission of knowledge wholesale through didactic teaching it results in an extremely bland learning experience and results in rigidity of medical knowledge.

To address this, we have introduced various innovative strategies in the Pharmacology tutorials of the 1st year Body and Disease module at Duke-NUS Medical School. These strategies capitalise on andragogy (adult learning theories) and cognitive learning theories in order to enhance the students learning experience, preparing them for the challenges in this ever growing field.

In this abstract we assess the efficacy of innovative strategies through questionnaires, examining knowledge, attitudes and perspectives.

Methods

6 different methods were employed over the course of 8 pharmacology tutorials in in the Duke-NUS MS1 Body and Disease Course. A total of 62 students took part. They are:

1. Crossword Puzzles
2. Bingo
3. Word Search
4. 60 Seconds on a Topic
5. TeamLEAD
6. Pharmacology 'Charades'

A short survey assessed 6 parameters:

continue from previous page

1. The clarity of objectives and focus of the session.
2. Level of engagement of the material
3. Level of engagement in the teaching methodology
4. Positive influence on student's interest in the subject matter.
5. Overall organization of the session
6. Overall strength of teaching quality

These were assessed on a Likert Scale (ie. 1 = strongly disagree to 5 = strongly agree). Comments were also collated from each session.

Results

In our study, 100% of the 62 participants responded. Every of the 6 teaching strategies employed scored above 4 (agree) in the 6 aspects assessed with variations in between. Comments given on the 6 different strategies were very positive. The participants enjoyed the sessions with such educational yet fun games. It allowed them to appreciate the larger perspective of pharmacology. The faculty was also very engaging, and willing to dismantle difficult concepts for easy understanding.

Conclusion

These methods inject fun and excites the learner. They were very positively received and can be foreseen to play a bigger role in the medical curriculum. Through innovation and andragogy can we leverage on both the medical students and faculty's intrinsic potential. It will firstly enhance the capacity of faculty to act as leaders and guides. Secondly, it will tap on the student's intrinsic motivation and inculcate academic rigour and discipline. It is envisioned that these innovative strategies will pave new paths in medical education in instructional design; developing versatile, resourceful healthcare professionals for tomorrow.

D2123

THE USE OF STANDARDISED PATIENTS AS PART OF PHYSIOTHERAPY CLINICAL EDUCATION

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Aims

Students in the Diploma in Physiotherapy program at Nanyang Polytechnic (NYP) must fulfil a total of 1080 hours of clinical education over 3 years in order to graduate. The traditional model of clinical placement for training entry-level health professional students places an over-reliance on the staff of hospitals and clinical centers to facilitate learning opportunities for our students. This model may not be effective when there are high student numbers, complex patients and increasing constraints in the clinical environment. The opportunistic learning environment of the clinical setting, dictated by whatever caseloads are available, may not meet the learning needs of physiotherapy students in the initial phase of their clinical education.

To ensure quality of clinical learning, an alternative model and innovative way to enhance clinical education and training of Physiotherapy students using standardised patients was studied. The NYP Physiotherapy Standardised Patient Program (PSPP) consist of using standardised patients to facilitate the training of our physiotherapy students in developing various clinical skills. Standardised patients are healthy individuals who are carefully trained to portray patients with specific histories, personalities, attitudes and physical findings. This program was incorporated as part of our clinical education for year 2 physiotherapy students.

Methods

The study involves the entire cohort of NYP year 2 (AY 2014/15) physiotherapy students (n=92). This will be their first independent clinical block, where the focus is on communication skills, clinical skills competency in examination, interpretation and analysis; and the development of self confidence in working with patients. The NYP PSPP was developed to replace 12 days of clinical education in musculoskeletal, cardiopulmonary and neurological practice. A PSPP evaluation form modified from NYP´s existing clinical competency form was designed to evaluate the competency level of the students pre/post PSPP. The Global Consultation Rating Scale (GCRS) was used to evaluate the communication skills of students. A self-evaluation of confidence form was also obtained from the students to chart their confidence level. Evaluation of the program structure was through students, standardised patients as well as clinical instructors´ survey feedback.

Results

Survey results from the students, standardised patients and clinical instructors were very positive. There was a significant improvement in the students' communication skills (p=0.000). Students expressed increased confidence in interacting and working with patients (p=0.000). PSPP significantly improved students' clinical skills competency in the areas of examination (p=0.004) and interpretation and analysis (p=0.049). Clinical instructors strongly agreed that the program improved the students' communication skills and were able to develop their clinical reasoning skills, as expected in a traditional clinical placement.

Conclusion

The Physiotherapy Standardised Patient Program(PSPP) provides a student centred, simulated clinical environment where the focus is on meeting the student's learning needs. Results have shown that the program can improve the student's self-confidence, clinical skills competency and their communication skills. PSPP can be used successfully as an adjunct clinical model in the initial phase of physiotherapy clinical education, to augment traditional clinical placements. This can help address the shortage of clinical places, yet allow fulfilment of the clinical objectives.

PATIENT AWARENESS ABOUT ANESTHESIOLOGISTS' ROLE

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Aims

The study aims to determine the perceptions, beliefs and concerns of patients undergoing scheduled surgical procedures requiring anesthesia on the role of Anesthesiologists at the University of Perpetual Help Dalta Medical Center (UPHDMC).

Methods

This is a descriptive study approved by the Ethics and Review Board, UPHDMC, involving 104 patients with elective procedures requiring anesthesia using a piloted questionnaire to obtain the ff information on the patient: 1) demographic data; 2) history of surgery and anesthesia exposure; 3) perceptions and beliefs on the role of Anesthesiologists; and 4) concerns about anesthesia before, during and after the surgical procedure. Data was analyzed using descriptive statistics and STATA 10 biostatistical software.

Results

Seventy three percent (73%) of the respondents show good level of awareness on the role of Anesthesiologists. Female respondents and those with previous anesthesia experience revealed higher awareness levels. However, some respondents were not aware of other roles of Anesthesiologists such as in ICU (37.5%) and pain management (34.42%). Almost all patients' major concern (97%) is death during surgery.

Conclusion

Majority of the patient respondents revealed good level of awareness on the role of Anesthesiologists. Death during surgery was the primary concern expressed. The results are instrumental in creating strategies to building physician-patient rapport - a vital component in an effective and efficacious health and delivery system.

D2108

IMPLEMENTATION AND EVALUATION OF A STUDENT CENTERED LEARNING METHOD FOR LECTURES IN PHARMACOLOGY

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Aims

Pharmacology teaching in Faculty of Medicine, Colombo is mostly lecture based. Objectives were to modify principles of Team Based Learning (TBL) and the Flipped Classroom (FC) models for selected pharmacology lectures and obtain student feedback.

Methods

Single consecutive lectures for students in the M.B.B.S (n=215), 3rdyear B.Sc. Pharmacy (n=12), 4th year B.Sc. Pharmacy (n=12), B.Sc. Physiotherapy (n=27) and Internal Pharmacy(n=84)programmes were identified from the scheduled timetable. Each had a predetermined topic and allocated to a single teacher (KDA). Selected lecture content was provided 1-2 days before or immediately prior to the lecture. Students were instructed to read the content at the beginning, thereafter true/false multiple choice questions (MCQs) or structured essay questions were provided. After attempting to answer individually, students were allowed to first discuss their answers in pairs and then in groups of 3-4 and allowed to refer the handout and clarify concepts from the lecturer. This process was repeated with a second set of questions. Feedback on content delivery was obtained on a four point Likert scale and one open ended question immediately after the session. Simple descriptive statistics were used.

Results

Response rates were 80.9%(n=174/215) for Medicine, B.Sc. Physiotherapy 100%(n=27), B.Sc. Pharmacy 3rd year 100%(n=12), 4th year B.Sc. Pharmacy 91.7%(n=11/12) and internal pharmacy 88.1%(n=74/85).

Majority in medicine perceived this method as effective/very effective(82.2%) compared to didactic lectures, having questions very useful/useful(91.4%) for active learning, themselves to be focused/very focused(89%) on subject, clarifications on difficult areas sufficient/very much sufficient(63%) and the lecture handout easy/not difficult(91.9%) to understand.

All physiotherapy students reported the method very effective/effective and having questions very useful/useful. Most reported themselves to be focused/more focused (99.9%), given clarification sufficient/very much sufficient (81.4%) and given handout not difficult/easy to understand (88.9%) however 11.1% found the handout somewhat difficult to understand.

All 3rd and 4th year students of B.Sc. Pharmacy reported the method very effective/effective, having questions very useful/useful for active learning, clarifications on difficult areas very much sufficient/sufficient and claimed themselves to be more focused/focused. All the 3rd year B.Sc. Pharmacy students reported the handout as easy/not difficult to understand, while 9.1% of 4th year students found it somewhat difficult to understand.

Majority in internal pharmacy reported this method very effective/effective (94.6%), having questions very useful (91.9%), themselves to be focused/more focused(94.6%) and clarifications on difficult areas very much sufficient/sufficient(90.6%). Lecture handout was reported as not difficult/easy by most (68.9%), however 31.1% found it somewhat difficult.

A total of 251 responses were received from all disciplines to the open ended question on the effectiveness of the method. Almost all were positive and on the opportunity for independent reading of the content prior/during the lecture(41comments), opportunity to clarify doubts(25 comments), improved understanding and sharing of knowledge(39 comments), opportunity for discussion(28 comments) and active participation(91 comments). Key themes identified were 1) independent/ active learning, 2) improved understanding, 3) frequent feedback and 4) sharing of knowledge. The 16 negative comments were on need for content coverage and direct teaching.

Conclusion

This method of content delivery was found to be acceptable and effective by majority of students across the disciplines. Further research is needed on the generalizability of the findings.

D2109

MEDIAL STUDENTS' VIEWS ON APPLICATION OF PROBLEM-BASED LEARNING SPECIFICALLY IN HISTORY TAKING CURRICULUM

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Aims

After application of Problem-based learning (PBL) as one part of history taking learning curriculum in Shantou University Medical College (SUMC), this study aimed to investigate the views of medical students on PBL application and the influences to their history taking performance.

Methods

Survey questionnaires on application of PBL were sent to 148 third-year medical students in SUMC who were in pre-clinical learning period and PBL was one part of the history taking learning curriculum within which the lecture method and simulated practices on standardized patients were also applied. All these students interviewed standardized patients (SPs) who evaluated their history taking performance at the end of history taking learning and the scores were compared with another group of 139 medical students as PBL was not applied to their history taking learning who were evaluated by the same SPs as the above.

Results

55% students agreed PBL could encourage intrinsic learning interest, however only 36% students regarded that the lecture method had the same advantage. And 71% students thought PBL could promote self-directed active learning when compared with the lecture learning method which was only supported by 23% students. On the other hand 79% students regarded PBL could improve collaborative spirit during the learning process, however only 11% students thought lectures also had the same benefit. 62% students regarded the lecture method, PBL method and simulated practice on SPs should coexist in history taking learning curriculum. According to the comparison of the scores on history taking performance test, it was found that there was no significant difference on the overall scores and the subscale scores between these 148 students and the other 139 students within their history taking learning curriculum there was no application of PBL method.

Conclusion

Most students had generally positive views about the application of PBL as a method in history taking learning. Partial application of PBL showed no significant influences to the students' history taking performance. Our students considered PBL should be one part in history taking curriculum and coexist with other learning methods.

IMPLEMENTING INTERACTIVE RUBRICS- A MORE EFFECTIVE METHOD OF ASSESSING PSYCHOMOTOR SKILLS

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Aims

The Neuromusculoskeletal Medicine/Osteopathic Manipulative Medicine (NMM/OMM) Department at COMP has continuously endeavoured to improve its teaching and assessment processes. We will share our experience and how the implementation of interactive rubrics resulted in a dynamic testing tool that was more exacting and clearly understood by graders and the students, drastically changing the examination process. Use interactive rubrics, categorized in each dimension supplied essential data that immediately reported a clear, and more accurate representation of student performance and areas for improvement.

Methods

The department underwent a major project to convert all paper practical examination testing rubrics to an electronic format, followed by testing and training of all practical examination graders in the use of the interactive rubrics, and full implementation for all practical examinations. The addition of categories to each dimension of the interactive rubric created an opportunity to measure past learning objectives while creating and adding new learning objectives enabling the department to effectively review their curriculum and make improvements driven by assessment data from each learning objective.

Results

Its versatility gave the grader freedom to move around the examination area and quickly record scores via handheld tablet in a complex and fast-paced, multi assessment environment. The addition of categories to each dimension of the rubric resulted in a robust exam summary that could instantly be pulled apart to give meaningful feedback on a granular level to impact student learning. Assessor reporting gave valuable insight on grader trends, individually and as a whole, in each aspect of the exam process. This lead to a unified and more objective grading process while creating development opportunities within the department. This major change has not only provided a faster, more organized, and more efficient process, but has created actionable measurements to facilitate student, faculty, and curriculum improvements in a manner that paper examination could not provide. The beta-testing process to date has been well received by faculty examiners and students, leading to the decision to fully implement the use of electronic rubrics for all future psychomotor skills testing. The use of categorized, interactive rubrics has quickly expanded to other departments within the university to efficiently grade group projects, essays, electronic SOAP notes, well as peer grading, allowing the students to experience the examination from the grader's perspective.

Conclusion

The use of an electronic rubrics for psychomotor skills testing provides a marked advantage over paper-based rubrics in areas such as: more efficient use of testing time, more focused and meaningful feedback to students, and the ability to gather and analyze actionable measurements for use in curriculum development and teaching improvement.

D2111

ENRICHING LECTURE VIDEOS AND WEBCAST WITH DIGITAL TAGS TO PROMOTE ACTIVE LEARNING

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Aims

Many universities across the globe are compelled to make changes to the way education is delivered because of the explosive growth in information coupled with the increasing demands on relevance, skills and competency training. Our current medical school curriculum is being redesigned and pedagogic processes restructured to enable the achievement of these learning outcomes.

The potential of IT in supporting these pedagogic objectives is beyond doubt. In recent times, e-learning has made major strides in becoming one of the fastest growing modes of instruction (Allen & Seaman, 2013). YLL SOM has made an important paradigm shift to migrate up to approximately 50% of curriculum to e-platforms. An initial idea of this pedagogy is based on a 'flipped-classroom' approach where the more didactic parts of the curriculum are migrated, and live-interactions with a tutor/teacher is reserved for more interactive discussions that can focus on integrative content.

The migration of course content to e-platforms needs to be more thoughtful in its implementation. The final product must be innovative and create value, i.e. it must be better than existing platforms. One of the easiest means of developing e-content is simply to make lectures available online as webcasts. However, these webcasts in the unedited form, are usually lengthy difficult to navigate through. The videos are not digitally tagged and the digital content not searchable. In general these webcasts are of a much lesser quality than live lectures. In this context, we have been working on video recording of the lectures in bite size segments, or chapters, rather than as a single lengthy video.

Methods

In this talk, we will discuss the methodology of enriching recorded videos. To begin, we used a traditional webcast and a self-directed documentary and added the first layer of chapter structure to the curated videos. Each video is published with a chapter structure that enables users to navigate easily throughout the video in order to jump to the parts that they are interested in. A chapter typically lasts 2 to 6 minutes and focuses on one idea or concept conveyed by the title. A key tool to achieve this mission is the chapter search feature that will enable users to search keywords within all the edited chapters and jump quickly to the relevant chapter that will answer their search.

Results

Beyond the creation of a chapter structure, we edited the video by enriching it with related contents. These enriched contents include readings, videos, websites, audios, quotes, notes and bibliography. These additional contents provide the audience with the tools for an improved user experience and appear on the right side of the video. They were synchronized and being pushed as the video is being played.

Conclusion

The materials designed here are now being evaluated for their usability in the undergraduate medical and also the non-medical cohorts. We hope we can further consider this as a tool to create e-learning materials to migrate online for medical school undergraduate program.

D2112

VIRTUAL REALITY SIMULATION IN DEVELOPING ARTHROSCOPIC SKILLS

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Aims

With the advancement of virtual reality simulators, more advanced and complex tasks can be taught via simulation. While such technology has been around for much longer such as the aviation industry, its entry into medical training has been less rapid. Virtual reality simulators for training arthroscopic procedures started to gain popularity around the late 1990's with the development of combined haptic systems later on. Multiple publications have emerged with varying opinions about it's use in residency training. However there has been no literature thus far with regards to virtual reality simulation in developing arthroscopic skills; in the local context. Our aim is two fold. First to do a literature review about this topic. Secondly to obtain an idea of its popularity and benefits in local residency training.

Methods

A pubmed search was performed with the keywords. All the articles were then filtered. Inclusion criteria included articles in English, virtual reality simulators specific to arthroscopic training. Exclusion criteria included older articles whereby the comparisons drawn were based on older virtual reality systems that did not use haptic feedback.

A subsequent questionnaire was created to collect demographic information from Orthopaedic residents and faculty in Singapore. Subjective feedback included how much virtual reality simulation was used in each individual programme, residents' feedback vs faculty feedback.

Results

Pending

Conclusion

Pending

D2113

SO YOU WANT TO BE A PSYCHIATRIST? PSYCHIATRY AS A MEDICAL SPECIALTY IN THE EYES OF MEDICAL STUDENTS IN HONG KONG

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Aims

Despite the recent reform in medical education in many countries, percentages of graduating medical students that would pursue psychiatry as their career choices remain low. This could be due to a number of reasons, including the lack of exposure and misconception towards this medical specialty. Unlike in North America, Hong Kong students enter medical school immediately after secondary school education. At The University of Hong Kong, psychiatry is being taught from the third year of a five- or six-year program. This pilot survey describes the perception of psychiatry as a specialty career choice from final year medical students at The University of Hong Kong.

Methods

Medical students who had completed their psychiatry specialty clerkship were invited to participate in this survey.

Results

Most Hong Kong medical graduates would not think of psychiatry as their eventual career choices when entering medical school. Students do not choose psychiatry as a career for a number of reasons, including psychiatry being "not real medicine", psychiatry not having enough scientific basis, and psychiatry can be too emotionally charged. Interestingly, exposures to psychiatry during medical school appear to have positive impacts towards psychiatry for some students. Students typically enjoy clinical psychiatry teaching, neuroscientific aspects of psychiatry, and working with psychiatric patients.

Conclusion

While the entering ages and curriculums are very different between North American and Hong Kong medical schools in general, the students' views toward psychiatry and choosing psychiatry as a prospective career are somewhat similar in these localities. This illustrates the ongoing misconception and stigma regarding psychiatry as a medical specialty.

AN INSTRUMENT TO MEASURE MEDICAL STUDENTS' PERCEPTIONS OF THE ASSESSMENT ENVIRONMENT: DEVELOPMENT AND INITIAL VALIDATION

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Aims

This study aimed to develop an instrument for measuring students' perceptions of the assessment environment in undergraduate medical programme and to examine the instrument's psychometric properties.

Methods

The Assessment Environment Questionnaire (AEQ), a 40-item, 4-point Likert scale instrument (1=Strongly Disagree to 4=Strongly Agree) was developed and administered to medical undergraduates from the authors' institution from November 2013 to June 2014. The overall response rate was 626/794 (78.8%). To examine the construct validity of the instrument, the factor structure of the AEQ was determined through exploratory factor analysis with principal component analysis and varimax rotation. To check the internal consistency of the instrument and its factors/subscales, Cronbach's alpha coefficients were computed across all the items as well as items within each of the factor/subscale. Correlations within and between the different factors/subscales were computed to examine their convergent and divergent validity. Mean and standard deviation for each of the factor/subscale as well as the overall AEQ were computed. Possible influence(s) of selected demographic variables on the AEQ scores were examined.

Results

A total of 611 completed questionnaires were analysed. In initial analysis, six items with communalities below 0.40 were removed. Another item with rotated factor loading less than 0.50 was deleted. Eight items with cross factor loadings were also removed. A further five items in two subscales with alpha values of 0.44 and 0.52 were dropped. The 40-item AEQ was reduced to 20 items. In the final analysis, the Kaiser-Meyer-Olkin (KMO) measure verified the sampling adequacy for the analysis, with KMO=0.90, which is well above the acceptable limit of 0.50. The Bartlett's Test of sphericity $\chi2$ (190)=4442.97, p<0.001, indicated that correlations between items were sufficiently large for factor analysis to be conducted. Four factors with eigenvalues of 6.54, 1.93, 1.47 and 1.40 were retained, which together explained 56.72% of the variance. These four factors were labeled as: feedback mechanism (7 items), learning and performance (5 items), information on assessment (5 items) and assessment system/procedure (3 items). Reliability analysis reported an overall alpha value of 0.89, indicating the AEQ has good internal consistency. With alpha values ranging from 0.71 to 0.87, the four factors/subscales within the AEQ also have acceptable to high internal consistency, providing evidence for convergent validity of the items in each subscale. Item-total correlation was above 0.40 for 17 of the 20 items, with a mean of 0.50. This reflects good item discrimination, supporting the divergent validity of the instrument. Mean score for the AEQ was 2.68/4.00. The factor/subscale of `feedback mechanism' recorded the lowest mean (2.39/4.00) while the factor/subscale of `assessment system/procedure' scored the highest mean (2.92/4.00). Significant differences in means between respondents of various demographic backgrounds provided evidence to support the instrument's construct validity.

Conclusion

The AEQ appears to be a valid and reliable instrument. There was evidence of its construct validity, convergent and divergent validity. The instrument and its four subscales show good internal consistency. Initial validation of the instrument supports its use to measure students' perceptions of the assessment environment in an undergraduate medical programme.

D2114

MEDICAL STUDENTS' PERCEPTIONS OF WARD ROUNDS IN THE UNDERGRADUATE MEDICAL CURRICULUM

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Aims

Ward rounds are widely regarded as an essential part of undergraduate medical training by presenting students with various tasks and roles they will need as future doctors. However, very few studies have examined this subject from the perspective of medical students. The objectives of this study are to explore medical students' perceptions of ward rounds, examine perceived barriers to learning and review possible strategies to increase the effectiveness of this approach.

Methods

Fourth year medical students (n=30) at the Faculty of Medicine, Ramathibodi Hospital, Bangkok, attended five focus groups. Discussions were audio-taped, transcribed and analyzed using qualitative methods.

Results

Students viewed ward rounds as being important for their learning and future practice. Wide variations in student experience were reported but ward rounds were felt to be under-utilized in the curriculum. Factors enhancing or obstructing student learning from ward rounds were categorized into three groups (instructor, environment and student) and administrative strategies were identified that could increase the effectiveness of this component of the curriculum.

Conclusion

Medical students viewed ward rounds as occupying an important place in the undergraduate medical curriculum and understood that there were many factors affecting the effectiveness of learning from this exercise. While having to balance education with patient care, the Faculty of Medicine should consider management changes to maximize the benefits to students from attending ward rounds.

D2115

FACTORS RELATED TO THE SUBJECTIVE CHARACTERISTICS OF INTERPROFESSIONAL WORKING IN A TERTIARY CARE UNIT: A CROSS-SECTIONAL STUDY

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Aims

In several occasions, medical professionals in tertiary care unit or tertiary hospital have to work interdisciplinary. However, the characteristics of interprofessional working (IPW) in tertiary hospital have not been investigated, as authors have already known. In addition, the factors related to them are still unclear. Therefore, we investigated factors related to the subjective quality of IPW among medical professionals in tertiary hospital.

Methods

The present study was a cross-sectional study, conducted between December 2014 and March 2015. Employees in 2 tertiary hospitals in Japan, who gave informed consent to join the research, answered the questionnaire, however, we show the results from 1 tertiary hospital, of which analyzes were completed. The questionnaire was consisted of following items: a) Background (dummied; sex, year of profession, their own sector, employment status, having any child), b) number of the section with which the participant collaborated with in daily work (numerical), c) characteristics of interprofessional collaboration (numerical; 2 Factors), d) Kikuchi's Scale of Social Skills (KISS-18; numerical). Participants answered 0 for b) were omitted from the analysis, because they cannot report the characteristics of IPW. We conducted generalized linear model with maximum likelihood estimation, using gaussian as link function. Independent variables were a) and d), and dependent variables were two factors of c). All statistical analyses were conducted with R3.2.1 and R-Studio 0.99.451. This study was approved by the Ethical committee of Mie University, and registered to the UMIN-CTR (Umin-CTR: UMIN000016263).

Results

1586 employees received the questionnaire, 1,000 answered, and 508 gave informed consent. We omitted participants who answered 0 for number of collaborating department, and who have missing values in measures, from the analyzes. Therefore, size of the analyzed dataset was 370. The "trustworthiness of the collaborating department" was associated negatively with 4 to 6 years of profession compared to 1 year ($\beta = -1.75$), and nursing ($\beta = -3.09$), para-medical ($\beta = -2.25$), and office ($\beta = -3.55$) compared to physicians.

The "Being familier with the collaborating department" was associated positively with KISS-18 ($\beta = 0.04$), and 2 to 3 years ($\beta = 1.26$), 4 to 6 years ($\beta = 0.99$), 7 to 10 years ($\beta = 0.97$), 11 to 20 years ($\beta = 1.42$), and 21 years or more ($\beta = 1.27$), compared to 1 year of profession. Also, it was negatively associated with nursing section compared to physicians ($\beta = -1.03$).

Conclusion

We found that characteristics of IPW were associated with social skill and several backgrounds, especially in social skill and years of profession. We should conduct further research to clarify the backgrounding mechanisms or factors of the association of social skill and years of profession on the characteristics of IPW.

D2116

APPLYING THE FLIPPED CLASSROOM TO A LARGE HETEROGENEOUS DISCIPLINE CLASS

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Aims

The flipped classroom is a pedagogical model in which students learn some of the in-class lecture materials before class through self-study, thus leaving more valuable time for student-teacher interaction in class. Although it is a popular model around the world, it is usually applied only in smaller classes because it requires the teacher to guide the students in an assistive role. If the class is too large, the teacher may find it too chaotic to create a productive learning experience. However, as class sizes keep on increasing, and e-learning is known to be an effective tool for use with large classes, it would be beneficial to examine whether the flipped classroom can be applied to larger classes. We have designed a flipped classroom for a first year health science course. Students will be provided with micro-modules of self-learning packages to be completed within 10-15 minutes before each lecture, in accordance with recent evidence concerning students' attention span, to maximise the effectiveness of learning.

Methods

The flipped classroom intervention is planned for a Year 1 Health Science course. Texts, videos, audios and animations have been produced to create a self-learning, pre-class micro-module package. In-class activities have also been designed to engage students and promote interactions among them to replace the traditional lectures.

Results

Ten micro-modules have been created, covering the major concepts taught in the course, including bioorganic molecules; electrical signals in neurons and the heart; major electrolytes in body fluids; how the eyes perceive light, etc. The course will run from September to December 2015. About 320 students with various academic backgrounds, including Chinese medicine, nursing, pharmacy and public health, are required to take this course. Each micro-module will follow the same structure, comprising animated, narrated and annotated multi-media presentations and self-assessment exercises.

Conclusion

Each micro-module will be introduced to the students one week before the lecture via a learning management system that will record the students' usage. A longitudinal study will collect student feedback on the whole approach throughout the course. The heterogeneous academic backgrounds of the students could pose a problem as their pre-course level of knowledge of some of the course materials is likely to differ. However, this heterogeneous background may actually be useful in the classroom activities as the more experienced students can help others, thus promoting discussion and social learning among peers.

The large class size and the students' motivation to study the micro-modules before attending the class may also pose challenges. However, we will conduct a test trial in July 2015 to better prepare us. The data gathered in this study will shed light on how to implement the latest teaching ideas in large classes, which is becoming a problem for medical schools as class sizes increase every year, especially for the earlier years of the medical curriculum.

LESSONS LEARNT FROM CHANGES MADE TO A COLLABORATIVE CURRICULUM: A QUALITATIVE ANALYSIS

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Aims

The Lee Kong Chian School of Medicine (LKCMedicine) is a new joint medical school between Nanyang Technological University, Singapore and Imperial College, London. The first two pre-clinical years of the undergraduate curriculum follows a systems based approach. Curriculum development has been a collaborative process with involvement from scientists, clinicians and academics to produce a bespoke learning experience for students studying at LKCMedicine. The first cohort of students was welcomed in 2013 and suggested changes to the curriculum for subsequent cohorts have been provided by both students and faculty.

Methods

We planned to evaluate the effect of high level faculty decision regarding iterative curriculum development by analysing the minutes of senior medical education committees. Approved curriculum changes for the first year were catalogued and examined in detail, focusing in particular on why the change was thought to be necessary. Using a specific template, 2 researchers initially coded the data independently and then analyses were compared. All documents were reviewed twice. Thematic analysis using grounded theory was used to interpret and draw out common themes from the changes.

Results

Proposed changes to the curriculum after the first iteration were categorised according to the following themes:

a) Content sequencing

    Certain teaching sessions were rearranged in the timetable, where they were felt to be better placed and aligned with logical progression of student learning. Timetabling changes grouped similar topics and content material together, thus preventing duplication of teaching.

b) Relevance

    Relating the curriculum to the local and national environment, ensuring the learning experience is 'fit for purpose'.

c) Allocated teaching time

    Increasing allocated teaching time allowed more challenging topics to be covered in depth. Combining sessions, consolidating material and removal of some sessions freed up student time, allowing more 'white space' for consolidation of learning.

d) Alignment of materials to outcomes and assessment

Formative assessment items that were not appropriately mapped to curriculum content or outcomes were removed, thus ensuring closer alignment of curriculum materials to learning outcomes.

e) Teaching modality

Some sessions changed teaching modality after the first iteration, as it became apparent that a different format would better suit the subject matter.

f) Additional material

Material was added to sessions to provide students with greater depth or to provide more clinical context to the basic science being studied.

Conclusion

Analysis of faculty proposals for change has demonstrated the iterative nature of curriculum development and design in this joint MBBS programme. Decisions regarding specific curriculum changes were informed by practical 'on the ground' experience by local teachers. Valuable insights were gained into areas for improvement of our curriculum, and we plan to assess the impact of the review process.

OBTAINING ACTIONABLE FEEDBACK TO PROVIDE IMPROVEMENT IN RESIDENCY TRAINING

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Aims

Background:

Obtaining good quality feedback is essential to improve the quality of training programmes. Feedback may be captured in two ways: Quantitative & qualitative.

Quantitative feedback data are useful for comparison purposes & accountability.

Qualitative data is required to improve the teaching and learning environment.

Aim:

To determine the perception of radiology residents on the Residency programme

To find out the views of the residents on giving written feedback to improve the training programme.

Methods

The study population consists of 16 residents in the Department of Radiology using mixed methods. The quantitative survey method uses a questionnaire designed by the Graduate Medical Education Council and consists of 29 questions with a nine-point global rating scale covering categories on teaching & curriculum, assessments, rotations, didactics, research opportunities, faculty, leadership of the programme director & head of department, administrative support, facility and welfare. The qualitative method involves two focus group discussions.

Results

Quantitative feedback:

All 16 questionnaires were returned. The residents scored six categories within the satisfactory range while five categories were classified as superior. The highest satisfaction (score 7.3) were noted in the head of department, administrative support and didactics. The lowest satisfaction (6.4) was seen in research. There were no categories considered unsatisfactory. The standard deviation ranged from 0.8 to 1.6. Analysis of written feedback showed 25% provided no written comments. Eleven (69%) residents gave overall positive comments while only 3 (19%) gave negative overall comments. Residents usually gave no written comments for unsatisfactory scores.

Qualitative feedback:

Two Focus Group Discussions were carried out. Reasons for lack of written comments include issues of confidentiality, fear of punishment, feedback fatigue, felt that it was unlikely that remedial steps would be taken and the lack of feedback skills.

Conclusion

The data collected by these quantitative and qualitative and methods may help to improve the Radiology residency programme as well as the programme evaluation method. Quantitative feedback scores showed residents were overall satisfied with the training system. However, qualitative actionable feedback was generally lacking which impeded quality improvement in areas of weakness.

D2119

DEVELOPMENT AND IMPLEMENTATION OF INTER-PROFESSIONAL EDUCATION (IPE) MODEL FOR HEALTHCARE UNDERGRADUATES IN UNIVERSITY OF COLOMBO, SRI LANKA

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Aims

Inter-professional practice or multidisciplinary approach provide best possible care for patients in order to improve health and patient satisfaction by optimizing the multiple skills of healthcare providers. One major way of enhancing inter-professional practice is through IPE where healthcare providers learning together to ultimately improve health and the safety of patients. IPE is becoming a more common component of medical school curriculum in most of the developed countries. However, none of the Sri Lankan universities providing healthcare degrees, bear IPE component in their curricula.

The aim of this study is to develop and evaluate an IPE model for the healthcare undergraduate students of government universities in Sri Lanka.

Methods

The study will be divided into 3 parts.

1st part will be focused on identifying healthcare undergraduates' and professionals' attitudes and perception towards IPE and barriers to implement an IPE model would be much beneficial prior to developing an IPE model. A descriptive, cross sectional study will be carried out for medicine, physiotherapy, nursing and medical laboratory science undergraduates in 4 government universities in Sri Lanka and for government medical officers, physiotherapists, nurses and medical laboratory technicians/ scientists attached to the Teaching Hospitals of above universities. Sample size for each group will be 1224 undergraduates and 456 healthcare professionals. Stratified random sampling will be used as the sampling method. A Focus Group Discussion (FGD) will be conducted to determine healthcare professional undergraduates' perception and attitudes towards IPE. Based on the FGD results, a self-administered questionnaire will be formulated which will become the baseline for developing an IPE model. Then it will be administered to all eligible subjects of the defined population and the score will be calculated.

2nd part will be the development of an IPE model for healthcare, based on the pre-survey and the best practices identified from the literature. Following is the proposed outline and logistics for implementation; develop overall goals/objectives of the model, develop a competency framework for the IPE model, develop key elements for the proposed IPE model (teaching-learning methods, assessment strategies), identify each healthcare professions' contribution to the IPE programme, finalize characteristics of educational interventions; length, duration, frequency of the intervention, Identify the evaluation strategy of the IPE model.

Part 3- developed IPE model will be piloted among a selected proportion of the same study sample of "Part 1" to test the feasibility and acceptability of delivering the above. Same areas and criteria which were used prior to the programme (in Part 1) will be evaluated to ascertain changes. The values of each sub-scale in the questionnaire, prior to and after the intervention will be compared using paired t-test, using SPSS version 18.0.

Results

Quantitative outcomes: Comparison of pre and post-survey attitudes and perceptions towards IPE in those who followed the developed model, ratings of the feedback form will be evaluated separately.

Qualitative outcomes: The new IPE model that will be developed, feedback from participants.

Conclusion

Developing an IPE module at the undergraduate level will strength future healthcare workforce to provide an optimal health system in Sri Lanka.

D2120

INNOVATIVE PATIENT SAFETY CURRICULUM USING IPAD GAME (PASSED) IMPROVED PATIENT SAFETY CONCEPTS IN UNDERGRADUATE MEDICAL STUDENTS

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Aims

While healthcare outcomes have improved significantly, the complex management of diseases in the hospitals has also escalated the risks in patient safety. In the process of training medical students to be proficient in medical knowledge and skills, new innovation using mobile apps gaming system (PAtient Safety in Surgical EDucation - PASSED) was created. This study aims to evaluate the outcome of patient safety perception using the PASSED games created.

Methods

An interactive iPad game focusing on patient safety issues was created by the undergraduate education team in the Department of Surgery, Yong Loo Lin School of Medicine at the National University of Singapore. The gaming system employed the unique touched-screen feature. Key learning objectives included patient safety principles, developing basic cognitive decision making and knowledge and prioritization of tasks and time-sensitive decision management. The game consisted of scenarios from the hospital sentinel events. Element of time sensitive decision making with bonus points given was created. All Phase III (year 3) medical students posted to Surgery experience this gaming system in a cohort of 55 to 60 students. The teaching session for patient safety was conducted towards the end of an 8-week rotation in Surgery to ensure that students had adequate clinical exposure in the wards at the various teaching hospitals. At the beginning, students were required to fill in a questionnaire to ascertain a baseline understanding of their perceptions in patient safety. A 20 minutes talk on concept of patient safety using the WHO Patient Safety Guidelines was conducted. Following this, students downloaded the apps from ITune store and played with the game for 20 to 30 minutes. The session ended with the students completing the post-intervention questionnaire.

Results

A total of 221 3rd year medical students responded to the survey. Majority of the students felt that the PASSED game had trained them to understand processes of medical error ($p < 0.001$), that their understanding on patient safety issues improved ($p = 0.007$) and the training prepared them to prevent medical errors ($p < 0.001$). Many students also recognized the importance of error reporting, where they felt comfortable reporting errors committed by themselves ($p < 0.001$) or by other people ($p < 0.001$). They also felt comfortable discussing with the supervisor on medical errors ($p < 0.001$). Students responded that better teamwork will reduce medical errors ($p = 0.003$) and teaching teamwork skills will reduce medical errors ($p = 0.002$). After the PASSED session, students felt that patients could play important role in preventing medical errors ($p < 0.001$). They felt that patient safety should be emphasized in undergraduate training ($p = 0.024$).

The level of understanding about concepts of patient safety was found to improve progressively from 2nd to the 5th posting for both pre-PASSED and post-PASSED intervention. The pre-PASSED scores for Posting 2 (3.59 ± 1.931), Posting 3 (4.11 ± 1.833), Posting 4 (4.84 ± 1.653) and Posting 5 (4.88 ± 1.642) were significantly higher than the post-PASSED scores for Posting 2 (4.46 ± 2.020), Posting 3 (5.17 ± 1.845), Posting 4 (5.88 ± 1.843) and Posting 5 (5.80 ± 1.843) respectively ($p < 0.001$).

Conclusion

Using iPad game (PASSED) to enhance the patient safety teaching has successfully improved the awareness and understanding of patient safety among medical students.

MEDICAL UNDERGRADUATES' PERSPECTIVE OF PORTFOLIO AS A LEARNING TOOL: FACULTY OF MEDICINE AND ALLIED SCIENCES, RAJARATA UNIVERSITY OF SRI LANKA

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Aims

Portfolios are integrally related to professional learning and have been introduced in a range of professional learning contexts. Department of Peadiatrics has introduced portfolio from third year both as means of learning and assessment tool. Aim of this study was to evaluate final year medical students' perception of portfolio as a learning tool.

Methods

Feedback was obtained from final year undergraduates of batch 2009/2010. An anonymous questionnaire survey was conducted consisting 16 items in which students had to respond to 5 point likert scale, ranging strongly agree to strongly disagree. Frequencies were calculated to determine students' views on different aspects of portfolio writing.

Results

Response rate was 92% (167/180). In order to facilitate analysis and interpretation, strongly agree and agree were regrouped and disagree and strongly disagree regrouped. The majority of undergraduates perceived that maintaining portfolio encouraged reflective thinking of cases which they discussed in the portfolios (69%), helped them in professional development (53%), helped to practice self directed learning (51%) and improved their written communication skills (59%). Forty five percent of students felt that portfolio writing help them to apply learning in to practical context while 66 % students perceived it a useful learning tool. However, majority of students' perceived portfolio writing as stressful process (63%) and time consuming (72%). Hence, only few students' enjoy the writing process (16%). Further, only few students were clear about examiners expectations (32%). In addition, most students viewed that additional guidance is needed from the department to write portfolio (68%) and they also felt difficulty in writing reflection component (86%). Interestingly, although majority felt it as a useful learning tool most of the students were uncertain and disagree with implementing portfolio for other parts of MBBS curriculum (78%).

Conclusion

A majority of undergraduates perceived portfolio as useful learning tool which encourage self reflection, writing skills and professional development even though it is time consuming and stressful. However, continuous guidance on reflective writing and standardizing the assessment process has to be considered by the faculty.

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NORTH EAST LINE → EAST WEST LINE → MSTRI WING → SINGAPORE NATIONAL EYE CENTRE

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Wheelchair Shuttle Service picks up at North East Line to all institutions. For SGH, drop off at Block 5.
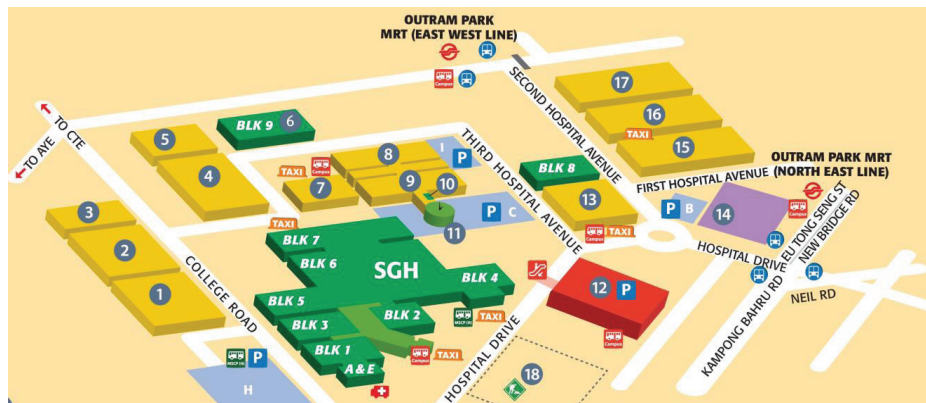
Legend:
- **TAXI** Taxi Stand
- Campus Shuttle Service
- Shuttle bus to Multi-storey Carpark H
- Drop-off point for A&E patients only
- Bus Stop
- **P** Car Park
- Under Construction
- Underpass

continue from previous page

Main Conference and Post-Conference (15th-17th January 2016)

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Yew Tong Wei
Zheng-Wei **Yii**
Yip Chee Chew
Yip Chun Wai
Yip Hwee Seng
James **Yip**
Yvonne **Yock**
Yong Jin Quan
Yong Wei Sean
Yu Wai-Yung
Sueziani **Zainudin**
Zhou Li

<div style="background:gray; color:white; text-align:center">SRI LANKA</div>

Suneth **Agampodi**
Thilini **Agampodi**
Ashwini **de Abrew**
Dimuthu **Gunasekara**
Akalanka **Hettihewa**
Shamalee Wasana
  Jayarathne

Wijesinghe Chamantha Dilmini **Karunaratne**
Indika **Karunathilake**
Chiranthi **Kongala Liyanage**
Sarath **Kularatna**
Thasanthan **Loganathan**
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Chamara Sampath **Paththinige**
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Patawee **Na Bangxang**
Sarush **Nimmankiatkul**
Sakphathai **Teyaratchakul**
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Danai **Wangsaturaka**
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Wojciech **Pawlina**
Lawrence **Sherman**
Gerald **Thrush**
Brad **Wu**

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Le Ngoc Ha
Le Van Dong
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Nguyen Hoai Nam
Nguyen Tung Linh
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Tran Tan Cuong

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Wednesday 11 – Sunday 15 January 2017
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