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ABSTRACTS FOR FREE AND SHORT COMMUNICATIONS

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PERILS PITFALLS AND POSITIVES OF A SEQUENTIAL OSCE PROGRAMME WITH SMALL COHORT SIZE. OUTCOMES OF A REVIEW OF THE BOND UNIVERSITY OSCE PROGRAMME

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Background and Aims
The Bond University OSCE exams assess clinical competency through a circuit of stations in a structured environment with a specific task to be performed at each station. Years 3, 4 and 5 comprise 2 x 12 station OSCES (OSCE A and OSCE B) either in a sequential (2 OSCE's 10 days apart) or "extended sequential" (2 OSCE's up to 3 months apart) format, with students who achieve 2 SEM above the cut score in OSCE A deemed competent to proceed in their training and not sit OSCE B.

Methods
A review was undertaken of the sequential format in year 4 and extended sequential formats of years 3 and 5. All areas of the OSCE program were reviewed including exam format, structure, administration, blueprinting and Board of Examiner processes such as cut score derivation, point of progression and grade book decisions. Issues around student feedback relating to sequential and extended sequential formats were discussed.

Results
Students who sat both OSCE A and OSCE B (especially those who are borderline fail in OSCE A) generally needed to improve their skills and many clearly did so in extended sequential exam format. Remediation tutorials and practice worked and reflected improvement in the group who most required it. Remediation between OSCE's was also logistically more intense and better resourced with the smaller group size. This clear positive however also revealed the main perils and pitfalls of the "extended sequential" format which predominantly affected the higher achieving students who achieved completion at OSCE A and were not required to sit OSCE B .These students were excluded from the extra clinical skills program and practice opportunities with their cohort, and importantly missed out on sitting and gaining experience in the OSCE B exam. They also have a much longer period in between OSCE's, say, from year 3 OSCE A to year 4 OSCE A in which to "deskill" and they do not have the chance to upgrade their OSCE A marks (students sitting A and B receive a combined OSCE A and B grade book mark) thereby often dropping in the cohort grade book rankings. Borderline regression cut score definition for OSCE B exam with a small cohort also became a significant issue with multiple concerns around cohort size, remediation effect,as did Board of Examiner cut score definition for pass/fail and point of progression.

Conclusion
Remediation between OSCES works and is a positive outcome especially as it is aimed at the students who require it most. It works so well that students who achieve completion at OSCE A were in fact disadvantaged in multiple areas. Cut score definition for OSCE B also become a significant issue especially in extended sequential format with small cohort size in OSCE B and remediation effects.

ASSESSMENT OF CURRENT PRACTICE OF THE WRITTEN HANDOVER AMONG PAEDIATRIC RESIDENTS IN ACGME-I RESIDENCY PROGRAMME IN QATAR

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Background and Aims

Physicians' written handover is a framework that facilitates proper patients' handoff to the receiving oncall team. It provides a comprehensive endorsement that aims towards reducing the potential harms on inpatients secondary to miscommunication. Our aim is to study the current practice of written inpatient handover among paediatric residents. To identify frequent missing elements from written handover that affect completion of the handover and might lead to potential harm on patients care and safety and to start introduce the new policy of American academy of paediatric for written handover in our residency program.

Methods

An observational study was conducted in Paediatric Department of Hamad General Hospital by chief residents. An observational tool was constructed according to 2016 AAP new policy statement for standards of written handovers. It included 15 elements which were screened in the written handoffs used by paediatric residents for patient endorsements. The screening was randomly for all general paediatric teams. The observation was for all kind of patients including acute in patients and chronic in hospital patients.

Results

A total of 29 written handovers were screened. The screening patients were only in general paediatric teams and it include acute inpatients and chronic patients in the hospital. The average rate of completion of the 15 elements was 60%. The most frequent endorsed elements were patients demographic characteristics: name, medical record number, age, weight, sex) room no, patients problem list with diagnoses and active medical issues, brief hospital course, pertinent history (medical, surgical, social), action list i) pending studies (especially those requiring immediate intervention) ii) tasks to be completed and potential and anticipated clinical problems and contingency planning . None of the endorsements had included allergies, recent vital signs/ pain control, and activity level / risk of fall. Only 3% of endorsements have included the code status.

Conclusion

None of the residents' written handovers were 100% compliant to the elements described in the AAP handover policy, 7 out of the 15 elements were included in more than 95% of the handover. The remaining deficient elements included: code status, allergies, recent vital signs and pain control, and activity level and risk of fall, all those elements can have potential implications on patient care and safe. by identified the deficiency gap for 15 elements of the new 2016 AAP policy for written handover in our institution. Formal training with emphasis on the missing elements will increase the efficacy of patients' endorsement and may decrease potential harms from miscommunication due to inadequate handoffs. Needing of standardisation of patients' written handover system following new policy by American academy of paediatric will promote effective communication, which will reflect on patient safety and better patient care across teams.

FEASIBILITY OF SP AS EXAMINER IN AN OSCE OF MEDICAL STUDENTS

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Background and Aims

Objective structured clinical examinations (OSCEs) are widely used for the assessment of medical students. Since the OSCEs were labour-intensive, standardised patients have been trained to be assessors of examinees' competence. However, there is concern that SP may not have the background knowledge to assess the examiners adequately. This study is to assure the validity of SP examiners' ability to assess clinical competence in an OSCE of medical students.

Methods

There were 60 SPs and 30 examinees in a 15-station (3-track, 5-scenario) OSCE of medical students in 2018. There were also 13 physicians as examiners assessing the examinees' performance during the OSCE. Due to physician examiners' constraint, there are two scenarios lack of a examiner in one of the three tracks. We used paired t-test to evaluate the score difference between SP examiners and physician examiners.

Results

The mean total score revealed that the SP examiners score examinees higher than physician examiners. When analysing the five scenarios separately, three scenarios related to patient condition explanation and physical examination revealed the statistically significant difference between SP examiners and physician examiners. The other two scenarios related to history taking and patient management revealed no significant difference.

Conclusion

Our study revealed that SP examiners tend to give examiners a higher score, maybe with the hope to alleviate the doubt as examiners and/or to favour a more pleasurable examiner-SP encounter. Moreover, when analysing each scenario separately, three scenarios recommending medical knowledge or problem-solving skills revealed the significant difference. Another two scenarios recommending generic skills revealed no significant difference. Our study offers support to the hybrid form of evaluation in an ECFMG review that problem-solving scenarios are best evaluated by physician examiners and generic skill scenarios are best evaluated by SP examiners.

USING LEARNING MANAGEMENT SYSTEMS TO AUGMENT EARLY WARNING SYSTEMS IN A FACE TO FACE MEDICINE FOUNDATION YEAR

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Background and Aims

In recent years, educators are facing new challenges with increasing class sizes and widening educational backgrounds and abilities of students. In traditional face to face modules like medicine, it can be difficult to track and gain an insight into the academic progress of students with reduced one on one contact time, especially in the preclinical years. Developing systems capable of identifying online learning behaviour indicators related to academic success or failure can be used to support existing early warning systems.

Much of the published research in learning analytics is focused on fully online learning and identification of learning behaviours that predict academic success. Many studies identify engagement in forum discussions and performance in online assessments/ quizzes as the most reliable indicators of academic success in online modules. Other variables that are often studied are frequency of login and time on task but these have been shown to have lower correlation to academic achievement.

The aim of the current study is to monitor student engagement in one module of a medical foundation year using quiz functionality within the learning management system and assess use of the data as a predictor of academic performance.

Methods

One of the five science modules taken by students in the first semester of a foundation year was adapted to include 20 self-regulated online quizzes covering all major topics within the module. Student engagement in all science modules was monitored using activity reports from Moodle, the university learning management system (LMS). Student online learning behaviours (total online activity, total quiz activity, time on quiz tasks, cumulative quiz score, forum activity) as recorded in the LMS activity reports, were analysed and correlated with module summative assessment score using SPSS.

Results

The inclusion of the 20 quiz activities in the module raised the average online engagement from 195 (15/16) to 613 interactions per student (17/18). The level of online engagement in the module was on average four times that of the other science modules in the foundation year. Higher engagement in forums was also observed but the number of forum interactions was significantly lower than quiz interactions. Weak but statistically significant correlation was found between module summative assessment score and: total online activity, total forum activity, total quiz activity, completed quizzes and time on quiz tasks. Only one variable showed highly significant correlation to module summative assessment score. 19% of the variation ($r^2 = 0.194$, $p<0.001$) in module summative assessment score can be predicted by cumulative quiz score. Binary logistic regression showed that cumulative quiz score correctly predicted if a student was 'at risk' or 'not at risk' of failing the module 65% of the time.

Conclusion

Online quizzes have been used to increase student engagement in course material and contribute to generating online learning behaviour profiles. These profiles have been shown to provide useful predictors of academic performance which may be used to supplement existing early warning systems for identifying 'at risk' students.

WHAT TIME WILL TELL: HOW THE CHRONOLOGY OF PREDICTIVE VALIDITY CAN SHAPE YOUR ADMISSIONS DECISIONS

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Background and Aims

For student selection, limiting assessment tool implementation to only those able to predict future performance is good policy. It should not be expected, however, that all outcome variables should be considered of equal import within institution, nor that all educational programs should ascribe an equal degree of value to any one outcome variable across institutions. In a review of the literature of assessment tools used of medical student selection, one variable demonstrates a surprisingly influential impact on strength of correlation, providing guidance for how these assessment tools should be used by individual programs - time from entry to medical school.

Methods

A PubMed search was conducted, limited to those studies conducted on assessment tools (grade point average (GPA), Medical College Admissions Test (MCAT) and its subsection scores, multiple mini-interviews (MMIs), and situational judgment tests (SJTs) which have demonstrated Pearson correlation of at least 0.30 with subsequent outcome variables during and subsequent to medical school. The strengths of correlation were plotted against time and a best fit line was drawn.

Results

Knowledge-based predictor variables - GPA and the physical sciences and biological sciences subsection scores of MCAT - demonstrated stronger correlation soon after medical school entry, with a marked decrease during later years of training. The Pearson correlation numbers were GPA drops from 0.4 to 0.0, MCAT biological sciences from 0.4 to 0.1, MCAT physical sciences from 0.3 to 0.0. Predictor variables based on some combination of personal competencies and reasoning skills - MCAT verbal reasoning, MMIs, and SJTs - demonstrated somewhat weaker correlation soon after medical school entry, with a marked increase during later years of training. Pearson correlations for mcat verbal reasoning rose from 0.2 to 0.3 , MMI from 0.1 to 0.4, and SJT from 0.1 to 0.3.

Conclusion

The authors hypothesise that predictive value of knowledge-based (but not predictive value of personal competency or reasoning skill) predictor variables decreases over time because knowledge is context-bound; further, that predictive value of personal competency and reasoning skill predictor variables increases (rather than merely remains stable) over time due to the increasing emphasis later in training of outcome variables reflective of patient and inter-professional interactions. The authors suggest that when admissions deans and committees draw up their admissions processes, they consider the chronological shifts in predictive validity strengths and how they can best be utilised to create an incoming class most reflective of their program's mission statement and the needs of the society their graduates will serve.

DON'T TOUCH MY EXAM - A MUTUAL STRIVE TOWARDS EVIDENCE-BASED PRACTICE IN ASSESSMENT

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Background and Aims

Assessment, rather than teaching, has a significant influence on students' learning. It directs students' attention to what is important and motivates to study. Further, assessment results indicate what students are able to perform in the future wherefore assessment must take place in an objective and legally secure setting. Yet, the assessment of a course is often regarded as a private entity of the teacher. The assessments are not necessarily prepared in alignment with learning outcomes and teaching, and often represents the pre-understanding of teachers' favourite subjects and previously proven assessments. In order to establish a new centralised assessment system for a medical program this case study was carried out among the program's educational leaders and teachers.

Methods

A prospective 2-year long CME faculty development process included 1) a baseline questionnaire study to identify the most important priorities (n=24); 2) Experiential learning workshops (n=140) with external assessment expertise and; 3) Peer-review of written examinations (n=50).

Results

The majority of the educational leaders agreed on that examinations need to be relevant and carried out based on predefined criterions. Initially one of major concerns among faculty was that a common strategy would increase the administrative burden. Therefore, a central assessment-development group was put together in order to facilitate the teachers' work. Experiential learning workshops, held by renowned international experts regarding e.g. blueprinting, item-writing, standard-setting and psychometrics, resulted in fruitful discussions where the need of altering the assessment culture was identified and mutually agreed upon. Peer-review of written examinations demonstrated the power of using the knowledge from both basic scientists and clinicians in quality assurance and in development of assessment items related to ILO's and teaching. Further, the standard setting skills were acquired and developed together, in a strive towards evidence based practice in assessment.

Conclusion

Balancing the number of recommendations and the implementation pace are key factors in sustainable introduction of a new system. By keeping the CME as an in-house activity, learning together, and to facilitate and nurture an ongoing dialogue the awareness of other courses and the need of a comprehensive system of assessments, rather than focusing on individual assessments. This approach could facilitate the process while navigating from teacher-centred towards a more integrated and student-centred assessment structure. Learning from our experience could be valuable for other programs while implementing new assessment systems in order to improve teaching and learning.

EARLY CLINICAL EXPOSURE AND PROFESSIONALISM: RESULTS OF AUTOMATED FORMATIVE ASSESSMENT BY COMMUNITY DOCTORS

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Background and Aims

Early clinical exposure to community/family doctors is increasingly widespread in medical schools. Early feedback can be beneficial in students' development of a professional identity and professionalism. We explored the feasibility and acceptability of an automated formative professionalism assessment tool to enhance feedback

Methods

All students (n= 259) are attached in groups of 1-3 for two sessions with a community doctor (n=97), consisting of generlists, family doctors, paediatricians, and psychiatrists. Doctors took 1-4 groups of students. Assessment of professionalism were in the following domains:

A. Honesty Patients, clinic staff and clinic tutor

B. Tasks Punctuality, Learning behaviour, appropriate dress

C. Patient Respect, compassion/listening, confidentiality

D. Communication Patients, Staff, Teachers

E. Self Recognise limitations

A likert scale was used
(5) Strongly agree, (4) Agree, (3) Acceptable, (2) Requires Improvement (1) Requires Counselling.

An automated system was used to collect responses via email one day after the end of the final attachment. A student photograph and name was attached to the form to help with identification. Doctors were given one reminder to complete the assessment.

Results

258 students attended both sessions, 1 student only attended one session. There were 225 (86.9%) completed doctor responses. 5 students were received a (2) requires improvement. Most common area for improvement was in B (Appropriate dress) (n= 3), whilst other included A (n=2), C (n=1), D (n=1). 3 students had concerns in only one domain, whilst 1 student had concern in 2 domains, and 1 student across 3 domains. Mean scores were 4.4±0.5 in domain A, 4.6±0.5 in domain B, 4.4±0.6 in domain C, 4.3±0.5 in domain D, 4.4±0.6 in domain E. The mean score of domain D (communication with patients, staff and teachers was the lowest when compared to other domains.)

Negative and positive comments were also received. Those flagged will have a debrief session in September 2018 (Start of year 3).

Conclusion

An automated feedback tool was feasible and acceptable for community doctors to evaluate students' professionalism. Comments were useful and constructive. Use of student performance with their peers can be useful in evaluating professionalism. Further additions to the tool may include automated feedback to students after vetting. Further studies are needed whether such automated tools in providing timely tutor and peer feedback may be helpful to enhance professionalism.

STANDARD-SETTING IN UNDERGRADUATE MEDICAL EDUCATION: COMPARING THREE METHODS FOR SUMMATIVE MCQ TESTS

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Background and Aims

Standard-setting constitutes an important part of assessment in medical education. Our new medical school uses the Ebel method. From the literature it is clear however that there is no clear gold standard. Although there are numerous standard-setting methods, there are only a limited number of studies that directly compare the extent to which these different methods show agreement; in particular comparisons between Ebel and Cohen's methods are few. We aimed to compare three commonly used standard-setting procedures: Ebel's method (EM), Cohen's methods (CM), and modified Cohen's method (MCM).

Methods

Data from summative single-best-answer MCQ tests, done at the end of the academic year, from five cohorts spanning five years of medical students in our new medical school were analysed by comparing the three different standard-setting methods.

Results

Using EM as the comparator, we found that for the first two years where students have less clinical exposure, CM tended to result in similar or higher cutscores, and thus result in similar or slightly higher failure rates; MCM however generally showed similar cutscores and failure rates. For clinical Years 3-5, CM showed variable differences vs EM, typically ~2% above or below the EM cutscore; MCM however consistently showed lower cutscores vs EM. For Years 3-5 however, failure rates with both CM and MCM were almost always identical to failure rates using EM.

Conclusion

Our results show that the different methods generate different cutscores as expected; however compared to EM failure rates with CM and MCM differ more in years 1-2, compared to years 3-5 . Implications of these findings for assessment in medical education are discussed.

FREE COMMUNICATIONS 2 – FACULTY DEVELOPMENT

A Model of International Faculty Development Strategies for Developing Clinical Teaching That Meets Both Global Standards and Local Needs: A Participatory Action Research
Takuya Saiki, Japan

Exploring Nephrology Faculty Active Learning Adoption in Teaching Difficult Topics During Residency Nephrology Education
Claude Renaud, Singapore

Factors Affecting Educational Identity Formation of Healthcare Professionals
Ahsan Sethi, Pakistan

The Effect of Staff Development Activities on Student-Centred Teaching Strategies in a Medical Science College in KSA
Heba Mohtady, Saudi Arabia

A Identification of a Model of Good Clinical Teachers by Structured Equation Modeling - A Pilot Study
Takeshi Kanazawa, Japan

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Zulkarnain AB Hamid, Singapore

Realignment of an Established Faculty Development Programme for New Teachers: A Systematic Approach
Viola Antao, Canada

Functions of Medical Education Units and Strategies for their Success: Lessons Learnt from the Sri Lankan Context
Asela Olupeliyawa, Sri Lanka

A MODEL OF INTERNATIONAL FACULTY DEVELOPMENT STRATEGIES FOR DEVELOPING CLINICAL TEACHING THAT MEETS BOTH GLOBAL STANDARDS AND LOCAL NEEDS: A PARTICIPATORY ACTION RESEARCH

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Background and Aims

In an era of globalisation of clinical education, medical educators are more urged to standardise the local clinical teaching. Careful strategies for implementing the international standard are needed for medical educators who organise faculty development programme so that local clinical teachers can deal with both accords and conflicts between international standards and local context of teaching. Nevertheless, faculty development strategies to realise such implementation has not been well studied nor established yet. The purpose of this project is to develop a model of faculty development strategies for clinical teachers to develop clinical teaching that meets both global standards and local needs.

Methods

A participatory action research methodology was employed to develop the model of an international faculty development programme for clinical teachers. Since 2013, Gifu University, Japan and McGill University, Canada have collaboratively developed the faculty development strategies and offered it for 31 Japanese clinical teachers from 11 teaching hospital at Gifu prefecture. In the initial phase, the first key idea of this project was to provide the program applying the on-site observational learning in Canada for Japanese clinical teachers and create continuous opportunities of learning between the institutions and staffs even after the programme. The data were gathered based on the three cycles of the actions such as starting, reforming and developing phases. The data were gathered over 6 years by the questionnaire, field notes and informal interviewing on their teacher development and this learning strategies. The data were gained from 40 people involved and from different 17 occasions in Japan and Canada. The qualitative data were analysed with thematic analysis.

Results

We have developed a five-stage model of international faculty development strategy that includes a) Preparation of local clinical teachers for international exposure, b) One-week, specialty matched observational learning programme in foreign teaching hospitals, c) Reporting back, trial and error in domestic context, d) Preparation for hosting the faculty development program at local institutions with foreign faculty members, e) Dissemination of global approach to local clinical teachers at local institutions across the prefecture. The main themes for successful implementation of an international faculty development strategies emerged: 1) facilitating participants' mutual respect to the context, 2) participants' embracing the differences and similarities in teaching, national cultures and health care systems between countries, and 3) embedding learning through active observation and collaborative reflective activities into the experiential learning cycle.

Conclusion

This participatory action research successfully demonstrated a model of international faculty development strategy for developing local clinical teachers' teaching that meets both global standards and local needs. It is also to be noted that key elements for the successful implementation of the strategies were also suggested. Medical educators who organise faculty development programme and hope to promote globalisation in clinical teaching in their local context are encouraged to apply this model to their own situation and clinical teachers.

EXPLORING NEPHROLOGY FACULTY ACTIVE LEARNING ADOPTION IN TEACHING DIFFICULT TOPICS DURING RESIDENCY NEPHROLOGY EDUCATION

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Background and Aims

Postgraduate year learners in Internal Medicine residency programs cite learning difficulties with a number of nephrology topics. Nephrology faculty preference of passive over active learning (AL) methods to teach these topics has resulted in high attrition rates in renal electives and declining interest in nephrology as a senior residency choice. There is however a lack of data in nephrology education research on why this is the case and more specifically to the Singaporean context where competency-based learning is relatively new. Our aim therefore was to explore nephrology faculty understanding of AL and the topics they teach, the rate of AL adoption and the barriers and enablers to its adoption.

Methods

A sequential explanatory mixed methods study design based on the Theory of Planned Behaviour (TPB) and aligned to 4 research questions (RQs) was conducted. The quantitative phase involved understanding faculty AL behaviour, intention, attitudes, subjective norm and perceived behavioural control by surveying nephrology faculty across 6 ACGME-I sites in Singapore using a validated instrument. This was followed by semi-structured interview of selected faculty to obtain deeper and richer insights into the survey findings . Quantitative data were categorised and analysed using descriptive and regression statistics. Qualitative data were subject to a hybrid inductive-deductive thematic analysis to discern themes with cessation of further data collection once thematic saturation was reached. Quantitative and qualitative data were triangulated so as o further clarify the theoretical constructs and answer RQs,

Results

Fourty nine of 82 eligible nephrology faculty participated in the study. Median (IQR) age was 39(10). 57% were males and 78% Chinese. 31% were senior consultants, 53% had more than 5 years of practice and only 35% held educational leadership positions. Responders had a narrow and basic interpretation of AL with less than 10% conceptualising AL as problem, case-based or reflective learning. They also faced cognitive difficulties with some of the topics with 75, 63 and 45% viewing electrolyte and acid-base problems, transplant immunology and glomerulonephritis as difficult areas respectively. Only 55% use AL strategies to teach these topics. Faculty with leadership roles, more than 5-year teaching experience and teaching difficult topics more often were more likely to adopt AL behaviour. Faculty attitude but not subjective norm or perceived behavioural control strongly predicted AL intentions. Ten faculty were interviewed with 4 themes emerging: faculty competence, barriers and challenges, environmental influence and self-identity. Self identity which describes values developed from past behaviour and experience emerged as an important contributor to AL intention and behaviour outside the TBP framework.

Conclusion

Nephrology faculty make limited use of AL when teaching poorly understood topics to competency-based intermediate learners. TPB makes significant contribution in informing on and explaining the factors that enable and impede wider AL adoption. However faculty AL behaviour, their own AL competency and perceptions of difficult topics are also shaped and driven by self-identity. Therefore faculty development initiatives and future instructional (re)design-based research with a focus on promoting wider faculty adoption of instructional innovations need to factor in all these factors before implementation.

FACTORS AFFECTING EDUCATIONAL IDENTITY FORMATION OF HEALTHCARE PROFESSIONALS

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Background and Aims

Previous studies have identified the impact of postgraduate qualifications in medical education on the educational identities, practices and careers of health professionals worldwide. This study extends the range and scope of inquiry by the longitudinal follow-up of a cohort of face-to-face students to specify the impact of these qualifications on the development of educational identities. It also explores the factors from the faculty development and workplace community that affected the transformational changes and development among learners.

Methods

Nine face-to-face fulltime students (2013/14) were interviewed longitudinally through the course to their workplaces at roughly fixed time intervals (four months) to explore changes overtime. The interviews looked at the participants' journey and transformation in educational beliefs through the course guided by Kelchtermans' (1993) conceptualisation of professional self. Questions were also asked about the key aspects from the course and the workplace that affected their identity formation. Themes were identified using constructivist grounded theory analysis.

Results

The participants felt more competent and committed towards their various roles and responsibilities over the period of the course. Their increasing self-efficacy, transformational changes and development as teachers, leaders, researchers and learners coupled with an increasing sense of belongingness towards medical education provides evidence that the qualification in medical education results in the strengthening of identity as medical educator. For some, the qualification would result in promotion and an expected increase in educational responsibilities. In the faculty development community, the participants reported various learning conditions related to the programme such as vicarious experiences, inter-professional collaboration, safe learning environment, self-directed learning, scaffolding and feedback as key factors influencing their development. From the workplace community, they mentioned various personal, systematic and resource factors as barriers and enablers.

Conclusion

This qualitative longitudinal study helps establish and extend the findings from the previous studies by exploring the immediate impact on the participants, whilst engaging with the medical education course. The qualification enhances self-efficacy and the participants develop as teachers, researchers, leaders and learners. It highlights the role of learning conditions from the course and interpersonal expectations in the classroom/workplace towards identity development of healthcare educators. This addition gives recognition to the importance of networks, relationships and support in the classroom/workplace environment for successful identity development. As there is an increasing number of institutions offering these postgraduate qualifications in medical education worldwide, the policy makers, administrators and schools should make informed decisions and consider these learning conditions to trigger identity formation.

THE EFFECT OF STAFF DEVELOPMENT ACTIVITIES ON STUDENT-CENTRED TEACHING STRATEGIES IN A MEDICAL SCIENCE COLLEGE IN KSA

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Background and Aims

In this age of knowledge, those who wish to participate and function in a competent and effective manner in their academic careers must be lifelong learners. Staff development acts as the foundation for the quality enhancement in health profession education and promotion of organisational change. The majority of health professional staff starts their academic positions unprepared for their roles whether from the educational perspective or the leadership one. Given that it is highly indispensable to meet these roles as well as responsibilities, staff development play an important role in this issue so staff professional development has to be planned, delivered, monitored and evaluated effectively.

Aim:

This is to appraise the effectiveness of staff development program for Health Professional Educators in a private college for medical sciences in KSA with regards to students centred teaching strategies. These strategies included PBL (Problem Based Learning), Flipped Classes and Small Group Discussions, Tutorials and the interactive teaching strategies implemented within traditional classes.

Methods

A system that documents, monitors and evaluates the effectiveness of the staff development program in the college has been developed. The focus of this study was staff development activities relevant to students centred teaching strategies. These activities have been evaluated using the first three level of Kirkpatrick's Model during the academic year (2017-2018). At the first level, the satisfaction of staff regarding training workshops was addressed. For the second level, the degree of change in staff knowledge, skills and attitudes after participation in the training workshops was assessed. This step was done through pre and post-tests introduced to staff before and after the workshops. Finally, at the third level, the transfer that has occurred in learners' behaviour was addressed.

Results

The staff satisfaction results ranged from (4.3) to (4.7) using a questionnaire with a Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree). T-test results for pre- and post-tests were statistically significant. With respects to the third level, students' satisfaction was assessed to be (80-98%). Also, structured peer review class visits were conducted and followed by constructive written feedback. These class visits monitored the proper implementation of students-centred and interactive teaching strategies.

Conclusion

The ultimate outcome of the staff development activities was significant satisfaction and productivity by both teaching staff members and students. Further monitoring and follow up of such staff development activities are recommended for enhancement of student-centred teaching strategies.

A IDENTIFICATION OF A MODEL OF GOOD CLINICAL TEACHERS BY STRUCTURED EQUATION MODELING -A PILOT STUDY

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Background and Aims

Good clinical teachers can promote residents' learning, optimise the learning potential of the workplace and motivate residents. Therefore, in the context of medical education, many studies have investigated the characteristics of good clinical teachers as perceived by resident physicians. However, within the literature, most of the articles are descriptive studies and it is not little known how a comprehensive model of good clinical teachers is constructed. Considering the background, the aim of this study is to identify the structure of a comprehensive model of good clinical teachers as perceived by resident physicians.

Methods

A multi-centre, cross-sectional survey was conducted. Based on data from a literature search and the result of our earlier qualitative study, we prepared 49 item questionnaire and sent it to various settings of teaching hospitals. Using the data we collected, the construct of a model was examined by conducting an exploratory factor analysis and using structural equation modeling (SEM).

Results

We collected a total of 314 questionnaires completed by residents in 10 Japanese teaching hospitals (response rate:69%). An exploratory factor analysis resulted in six-factor (Role Model, Clinical Teacher, Encouragement of Self-directed Learning, Supervision, Clinical Competency, and Respect for Residents) model including 41 items, which explained 46.9% of the total variance. Confirmatory factor analysis was performed, using SEM. The root mean square error of approximation was 0.076, meaning an acceptable goodness of fit for this model.

Conclusion

We revealed the structure of a comprehensive model of good clinical teachers as perceived by resident physicians. To the best of our knowledge, this is the first report of the construct of the model of good clinical teachers, using SEM. The result of this study will contribute to faculty development and clinical teacher evaluation not only in Japan but also all over the world.

THE ASSOCIATION BETWEEN EMOTIONAL INTELLIGENCE AND THE RISK OF BURNOUT AMONGST CLINICAL EDUCATORS: A PILOT

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Background and Aims

Burnout and its deleterious effects are common amongst clinical educators (CEs). We study the association between Emotional intelligence (EI) - the capacity for positive interpersonal relationships - and burnout amongst CEs, specifically for their plentiful interactions with patients and students. The hypothesis is that those who have low EI scores will be more likely to be burnt out, due to a job mismatch (personal qualities that do not support a role with plentiful human interactions).

Methods

We enrolled 42 CEs from various departments who attended a faculty development workshop on TEIQue (Trait Emotional Intelligence Questionnaire - a psychometric tool measuring EI traits, which has 15 facets grouped into 4 factors). They anonymously submitted their TEIQue profiles (which gives the global, factor and individual facet scores), and their Maslach Burnout Inventory-Human Services Survey responses to study the association.

Results

33.3% of respondents have below-average global EI scores (which gives a snapshot of general emotional functioning) while 35.7% have burnout. The results look at the 3 levels of EI: global score, factor score and facet score.

Below-average Global EI score is consistently associated with increased risk across all 3 burnout dimensions: emotional exhaustion (EE) (RR=2.57,p=0.0201), depersonalisation (DP) (RR=1.71,p=0.2980) and decreased sense of personal achievement (PA) (RR=4.50,p=0.0017).

While all below-average factor/facet scores are associated with increased risk of burnout, there is heterogeneity in their effects (i.e. some increases risk significantly, while others, minimally). Low scores in the wellbeing factor (happiness, optimism and self-esteem), specifically, adversely affects all burnout dimensions significantly (RR>2 for all). The highest risk factor for each burnout dimension was also identified: EE is affected most by wellbeing (RR=2.57,p=0.0201); DP is affected most by emotionality (empathy, emotion perception, emotion expression and relationships) (RR=2.74,p=0.0459); and PA is affected most by sociability (emotion management, assertiveness and social awareness) (RR=6.05,p=0.0022).

Conclusion

The study supports the empirical observation that burnout and EI "incompetence" are not uncommon and are present even in those who are deemed successful in their areas of work. EI alone, though, does not explain for all who are burnt-out and many other factors probably contribute as well. The heterogeneity of effect of EI factors/facets on burnout suggests 2 things: 1) that different jobs require different EI "competence" and a "deficiency" in a "required" factor/facet in the job may contribute to burnout and 2) knowing one's EI (by means of the global, factor and facet scores) can help improve awareness of one's susceptibility to sustaining any one of the 3 dimensions of burnout. Both of these suggest that preventive measures can be taken and even planned earlier during career planning and coaching to reduce the likelihood of a clinician suffering burnout later in their career. More studies on burnout and EI in CEs - with larger numbers of participants - are required to confirm or refute this pilot observation.

REALIGNMENT OF AN ESTABLISHED FACULTY DEVELOPMENT PROGRAMME FOR NEW TEACHERS: A SYSTEMATIC APPROACH

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Background and Aims

Background
Family Medicine teachers need robust faculty development (FD) that aligns with learner, current institutional, and accrediting requirements. In 2005 at University of Toronto, a 3-day annual BASICs program was implemented to support new faculty to function optimally in their roles as teachers. Over the years, sessions were revised, but there was growing evidence of misalignment and faculty disengagement.

Learning Objectives
(1) To evaluate the existing BASICs faculty development program.
(2) To examine alignment with our current diverse faculty needs, and organisational, education, and practice requirements.
(3) To redesign a FD program to address identified gaps and stakeholder needs.

Methods

Description/Approach Used
The FD committee used quantitative and qualitative evaluation data, information from individual participants, focus groups and a systematic 9-step instructional design process1 to revamp the BASICs program. Despite a 95% satisfaction rate, participants wanted shorter didactic sessions and more options for workplace FD.

The Faculty Development committee identified 10 core principles to guide program re-design:

1. Shift to learning centred environment
2. Optimise relatedness/linkages to Department of Family & Community Medicine at the University, Community of Practice, networking
3. Core current competence which aligns with curriculum (Competency by Design, Equity and Diversity)
4. Engagement: mind and body and self - more interactive
5. Wellness and Resilience
6. Booster / Self Learning design components
   a. blended learning
   b. guided,

    c.   interspersed,

    d.   modular

7. Alignment of Values - vision and purpose (Department of Family & Community Medicine, Faculty of Medicine, Accreditation College of Family Physicians of Canada)

8. Inclusive, professional identity (Learner, patient, Health Professional Educators)

9. Modularity that increase accessibility for distributed faculty

10. Link to mentor

Results

An analysis of learner characteristics, task analysis around teaching level expectations and review of content and sequencing revealed a much needed realignment, especially around Competency by Design, Quality Improvement, Wellness and Resilience, relevance for inter-professional audiences, and building a sense of belonging and an academic identity. Three theoretical models were identified to guide the teaching approach: (1) adaptive expertise; (2) self-determination theory; and (3) and a learning-centred approach.

Conclusion

The redesigned program will incorporate the following approaches:

• A blended learning design of 3 core face-to-face sessions offered across 6-9 months, with developmentally sequenced modular streams of teaching and assessment.

• 2 pre-designed workplace FD components facilitated by local FD leads for peer coaching.

• Development of a local Community of Practice.

FUNCTIONS OF MEDICAL EDUCATION UNITS AND STRATEGIES FOR THEIR SUCCESS: LESSONS LEARNT FROM THE SRI LANKAN CONTEXT

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Background and Aims

Units for Medical or Health Professions Education exist, or are being established, in health professions training institutions globally. Previous qualitative studies have described the roles and functions of such units and more recently, the institutional values and beliefs that shape the functions of these units and the strategies for success employed by unit leaders. However, institutional expectations and academic culture may vary across regional contexts. Sri Lanka has a strong tradition in medical education with a WHO regional teacher training centre established four decades ago. We explored the perceptions of Sri Lankan medical educators on the roles and functions of their units, successes achieved, and challenges encountered.

Methods

Semi-structured interviews were conducted with eleven medical educators from medical education units or departments, representing six of the eight medical faculties for undergraduate education and the national institute for postgraduate training. Five had held leadership positions in their medical education units. Questions explored the roles and functions of the units, how challenges are managed, and markers of success. Transcripts were systematically coded and analysed through framework analysis. The analysis was informed by concepts of Institutional Logic and Institutional Entrepreneurship.

Results

Participants identified three interrelated institutional logics or how institutional values influence unit functions: curriculum change, continuum of medical education, and service-research expectations. Many of the units were established to drive curriculum change in their medical schools and to support faculty in managing the change. Curriculum development and faculty development were thus more often identified as markers of success than research output. Research was conducted to contextualise and justify change processes and apply best practices tailored to the Sri Lankan learners. Since postgraduate education was conducted by a national institute, contributions by participants to this area were considered informal and external work by other faculty. Service functions such as contributions to curriculum evaluation, quality assurance committees and to student support were considered by participants as important in making internal work indispensable to the institution. Young academics had to maintain a fine balance between service expectations and their own postgraduate studies. The relative importance given to service, faculty development and research by unit leaders varied according to unit maturity.

Unit leaders were entrepreneurial and used several strategies for success. They promoted medical education as a scientific discipline and a profession by establishing a speciality college, a specialist training programme, and departments of medical education; and by organising academic conferences and meetings on nationally relevant issues. They embraced the psychology of managing change, creating windows of opportunity by leveraging the interests of leaders in their institutions while recognising that educational change is slow. They collaborated with other faculty by conducting joint faculty development activities and through educational research projects.

Conclusion

Medical education units in Sri Lanka have developed unique institutional entrepreneurship strategies. However, balancing competing institutional logics leads to challenges for the growth and sustainability of units. The academic role of units should be strengthened with greater support for educational scholarship and by more formal roles that span the continuum of medical education.

FREE COMMUNICATIONS 3 – GENERAL EDUCATION

Educational Scholarship for the Health Professions: Enhancing our Engagement with the HPE Literature
Svetlana King, Australia

Training Members of 'Self Help Groups' from the Local Community as 'Standardised Patients'
Mahalakshmi Venkatesan Natarajan, India

Enhancing Mentoring in Medicine – Combining Novice Mentoring with Peer and Near-Peer Mentoring: A Thematic Analysis of Mentoring Programmes Between 2000 and 2017
Samuel Lim Yong Siang, Singapore

Study on Empathy of Medical Students during Medical Interview Training in Japan
Yoshimi Harada, Japan

Use of Standardised Patient in Patient Education: A Mixed Method Study
Siriwan Lim, Singapore

Selection of Students for Health Professions Education in Sri Lankan State Universities
Ashwini de Abrew, Sri Lanka

Factors Influencing the Acceptance of Medical Students' Participation in Pelvic Examination of Out-Patients from Department of Obstetrics and Gynecology
Nisakorn Deesaen, Thailand

Achievement of Educational Outcomes from Graduates' and Clinical Supervisors' Perspectives: A Qualitative Study of Curriculum Evaluation
Mia Kusmiati, Indonesia

EDUCATIONAL SCHOLARSHIP FOR THE HEALTH PROFESSIONS: ENHANCING OUR ENGAGEMENT WITH THE HPE LITERATURE

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Background and Aims

Health professions education (HPE) encompasses educational research across all health professions. In much the same way as medicine, nursing, and speech pathology are disciplines of health, HPE is emerging as its own 'specialist' field of enquiry.

Despite the growth in this field, our knowledge of the breadth of HPE-specific journals may be limited to what we learn from our colleagues and anecdotal evidence about potentially relevant publication sources Further, little is known about how the different health professions interact across HPE journals. To address these gaps in our understanding, we examined the journal literature. We sought to: (1) determine whether HPE could be considered a profession in its own right, through the identification of HPE-specific journals; and (2) understand the relationships between different health professions by analysing intra- and inter- disciplinary citation patterns across HPE journals.

Methods

This study used a conceptual framework comprised of two theoretical propositions, developed from the sociology of professions literature. These propositions relate to key characteristics of a profession: (1) a comprehensive body of knowledge (the knowledge proposition); and (2) alignment with, and distancing from, other professions (the boundaries proposition).

Using a comprehensive literature search spanning 10 years (2006-2015), a set of HPE journals was identified. After inclusion criteria were applied (i.e., 2015 SCImago Quartile Ranking of 1-2 for education, indexing in Scopus, and 2015 Impact Factor), a subset of 18 higher quality journals formed the basis of an analysis of citation patterns across these journals.

Results

Multiple search strategies identified 50 HPE journals, supporting the knowledge proposition. Journals were grouped according to profession, the majority of which were categorised as interdisciplinary, medicine, and nursing and/or midwifery. Other journals were grouped into dentistry, pharmacy, veterinary medicine, chiropractic, respiratory care, physical therapy, and physician assistant. In addition, six of the journals had a multidisciplinary focus.

Citation pattern analysis of the 18 subset journals revealed that each professional group cited itself the most (intradisciplinary citation), suggesting that there are distinct boundaries around professional groups within HPE, supporting the boundaries proposition. The next most commonly cited papers were those from interdisciplinary journals, supporting the idea that HPE is itself an interdisciplinary field of inquiry.

Conclusion

Engagement with educational scholarship for the health professions could be enhanced by expanding our understanding of the depth and breadth of HPE journals. By strengthening our relationships across professional boundaries, we may be

TRAINING MEMBERS OF 'SELF HELP GROUPS' FROM THE LOCAL COMMUNITY AS 'STANDARDISED PATIENTS'

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Background and Aims

South Asia region has a relatively low density of doctors (6.7/10,000population, WHO,2010) and has failed to meet the WHO's "basic" healthcare standard. Hence there is a drive to increase the number of qualifying physicians across the region by increasing the number of medical students being trained. However, to ensure 'quality of care', these doctors should be adequately trained. Alternate strategies and innovative training methods are needed to ensure effectiveness when student groups are large. We present our experience in identifying and training women from local self help groups of the community as standardised patients to help in training medical students in history taking and communication skills.

Methods

Standardised patients (SPs) have been used to train medical students in core clinical skills extensively in many countries. They are usually professionals with literature or drama background.

Since August 2015, we have trained members of the local 'Self Help Groups', with minimum educational qualification as SPs. SPs are trained extensively to portray the historical, physical and emotional features of a given case in a standardised and consistent manner. The SPs are also actively involved in shaping the case details - adding the economic, social, demographic, personal and emotional aspects of the life of the person depicted in the case. Once trained, they are deployed for various training and assessment activities 'on-demand' basis, after a 'refresher' of the case to be enacted. This pool of well-trained SPs, could depict a variety of clinical scenarios and aid in training of a large number of medical students simultaneously. As the SPs are drawn from the community, their ability to mimic the patients' language, body language and beliefs is authentic.

We have designed the 'Integrated Introduction to Clinical Medicine course' in Semester 3 of MBBS course wherein students undergo their first training in History taking, Communication skills and Physical Examination skills across General Medicine, General Surgery, OBGY and Community Medicine using the SPs as main teaching-learning resource.

The SPs are also an integral part of

• Objective Structured Clinical Examinations for medical students.

• Objective Structured Teaching Exercise for post graduates & faulty.

Results

The key challenge for the team is the ability to lead change in Teaching-learning strategy. The logistics of managing faculty time for development of cases &training SPs and Students' rotation schedule also had to be overcome.

The development of clear guidelines & SOPs and focus on Continuous Quality Improvement cycle including design, delivery, evaluation and redesign make it possible to be scalable and adapted to a wide variety of educational settings.

Conclusion

The Key yardsticks & the Critical Factors for Success of the program is also discussed.

ENHANCING MENTORING IN MEDICINE - COMBINING NOVICE MENTORING WITH PEER AND NEAR-PEER MENTORING: A THEMATIC ANALYSIS OF MENTORING PROGRAMMES BETWEEN 2000 AND 2017

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Background and Aims

Novice mentoring or mentoring between a senior and experienced physician and a junior physician or medical student in medicine enhances the professional and personal development of mentors and mentees. However, despite its successes novice mentoring programs continue to face financial, personnel, and practical obstacles. Combining novice mentoring with near-peer and peer mentoring (C-NP mentoring) has been touted as a potential solution that will allow the expansion and better utilization of mentoring in medical training. With C-NP mentoring being unproven, poorly understood, and diversely practiced, this review seeks to scrutinize the viability of C-NP mentoring and forward a framework for a consistent and effective C-NP mentoring program.

Methods

Four reviewers carried out independent literature searches on C-NP mentoring in medicine using Embase, ERIC, PubMed, and Scopus databases for articles published between 1st January 2000 and 31st December 2017. The Best Evidence Medical Education (BEME) collaboration guide and the STORIES (STructured apprOach to the Reporting In healthcare education of Evidence Synthesis) statement were used to develop a narrative from the themes identified from the thematic analysis of the articles selected.

Results

3913 citations were identified, 133 full-text articles were reviewed, and 15 full-text articles were included. Thematic analysis was employed to circumnavigate mentoring's context-specific nature and 10 semantic themes were identified including the need for C-NP mentoring, mentee and mentor participation, the matching and mentoring processes, mentee and mentor training, obstacles to C-NP mentoring, outcomes measures of C-NP mentoring, and proposed improvements to C-NP mentoring.

Conclusion

C-NP mentoring is an evolution in mentoring practice designed to meet the growing demands for timely mentoring support and personalised education for medical students and junior doctors. C-NP mentoring's success at meeting these goals comes from balancing a flexible approach that facilitates individualised mentoring support and its use of a structured approach that enhances compliance of accepted codes of conduct and professional standards of practice and ensures effective oversight of C-NP relationships. These insights help forward a C-NP mentoring framework that can be adapted to diverse training settings and guide longitudinal and holistic study of C-NP mentoring processes and relationships.

STUDY ON EMPATHY OF MEDICAL STUDENTS DURING MEDICAL INTERVIEW TRAINING IN JAPAN

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Background and Aims

An empathic attitude is important in a doctor's communication with patients. Medical interviews are performed in the objective structured clinical examination (OSCE), as an evaluation of the communication skills of medical students. In these medical interviews, simulated/ standardised patients (SPs) and teachers evaluate whether the medical student shows empathy. However, there are no reports to date that have analysed the validity of the method to evaluate empathy that is used in OSCE. Our previous studies showed what SPs feel student's empathy associated with both verbal and nonverbal communication.

Methods

The training involved the participation of SPs during the bedside learning of fifth year medical students. After completing the medical interview training, we conducted a questionnaire survey among the SPs with 7 questions using a 5-point Likert scale, from 0 to 4. A list of questions were prepared for the semi-structured interview asking "Which point did SPs feel student's empathy?".

Results

A total of 36 SPs responded to the questions, and evaluated the following factors regarding medical interview training of 36 students. "I was given enough time to talk at the beginning of the interview" (medium value [interquartile range] = 3 [2-3]), "The volume and clarity of the student's voice were appropriate" (4 [3-4]), "The student made good eye contact." (3 [2-3]), "The student's attitude was appropriate" (4 [3-4]), "I was able to say enough of what I wanted to talk about" (3 [2-3]), "The student used phrases to express empathy" (3 [2-4]), "I felt that the student was empathic throughout the interview" (3 [2-4]). A significant correlation was observed between "I felt that the student was empathic throughout the interview" and "I was given enough time to talk at the beginning of the interview" (R = 0.64), "The student made good eye contact" (R = 0.41), "The student's attitude was appropriate." (R = 0.47), "I was able to say enough of what I wanted to talk about" (R = 0.55), and "The student used phrases to express empathy" (R = 0.71). Multiple regression analysis demonstrated that "The student used phrases to express empathy" was the only independent predictor of "I felt that the student was empathic throughout the interview" (P<0.001).

Conclusion

The factor which most strongly correlated with whether the SP felt that the student was empathic during a medical interview was "The student used phrases to express empathy". However, correlations were also observed with open-ended questions at the beginning of the interview, attitude, and the student's level of attention at the beginning, indicating that various types of verbal and nonverbal communication determine whether the SP felt that the student showed empathy.

USE OF STANDARDISED PATIENT IN PATIENT EDUCATION: A MIXED METHOD STUDY

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Background and Aims

Background:
Clinical practicum served as a platform for nursing students to apply what they have learnt from school into the industry. Core skills such as communication and patient-centred care are competencies that are important for student to master through their years in the nursing school. Patient education is a critical component in patient-centred care as it promote patient's autonomy and involvement in decision-making. Patient education is currently taught using peer role-play that have its limitation as it lacks the realism of the clinical setting.

Aim:
To evaluate the effectiveness of standardised patients on satisfaction and self-confidence among undergraduate nursing students' knowledge, skills and attitude in assessing, plan, implementing and evaluating their patient education more confidently and competently in the clinical setting.

Methods

This study utilised a sequential exploratory mixed method design made up of two phases. Phase one, was a pre and post-test, single group quasi-experimental approach and phase two used a focus group interview approach. Participants' demographic data was collected using a demographic sheet. Quantitative data was analysed using descriptive statistics and a parametric approach using a paired sample t-test to compare the differences in student's satisfaction in current learning in patient education with or without the use of standardised patient. Qualitative data was analysed using inductive thematic analysis.

Results

A total of 86 Year 1 nursing students took part in this study giving a response rate of 57%. Results from the paired t test showed that there was a significant difference on students' satisfaction before (M = 15.09, SD = 3.36) and after using standardised patient (M=20.55, SD=2.17); t (86) =13.42, p< 0.000 when providing patient education. There was also a significant difference on students' confidence level before (M = 26.53, SD = 3.26) and after using standardised patient (M=32.47, SD=3.26); t (86) =11.70, p< 0.000 as well. Themes emerged from the focus group interview were primarily related to three aspects of patient education encountered by the participants: 1) knowledge; 2) challenges: and 3) therapeutic alliance.

Conclusion

The use of standardised patients in teaching the interviewing skills needed in conducting patient education is effective to prepare students despite the challenges faced by them in the clinical areas. They are able to develop their knowledge, skills and attitude to empower themselves to engage their patients, family and allied team members.

SELECTION OF STUDENTS FOR HEALTH PROFESSIONS EDUCATION IN SRI LANKAN STATE UNIVERSITIES

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Background and Aims

Selection of undergraduates for Sri Lankan state universities is based solely on student performance at the secondary school General Certificate of Education Advanced Level (GCE AL) examination. Health professions degree programmes are offered to students in the GCE (AL) biology stream. There is a common perception that opportunities to study medicine are limited and that entry to medical degree programmes require very high grades. These arguments are used to justify establishment of private medical universities in Sri Lanka. Lack of data and robust evidence contribute towards the perpetuation of these assumptions. We aimed to quantify opportunities available for AL biology stream students to enter medicine and other health professions education programmes in Sri Lankan state universities.

Methods

Secondary data was obtained from the University Grants Commission (UGC) and the Ministry of Education, Sri Lanka. The university intake of all biology stream students was extracted and proportions allocated for different health and non-health related degree programmes were calculated. Subsequently, the minimum GCE (AL) grades required for admission to medicine and other health related programmes was determined.

Results

In 2015 a total of 46,581 students took the GCE (AL) examination in the biology stream. of these, 53.41% (n=24,877) were deemed eligible to gain university entry by obtaining "S" (pass) grades in all three subjects. Approximately 26% of biology stream students who fulfilled the eligibility criteria were accommodated in the 6,395 placements available in state universities. of these placements, 46% (2,930) were for health professions degree programmes. Medical degree programmes accommodated 1470 students, which is approximately 50% of all placements in health professions education and 23% of all placements available for biology stream students.

In the biology stream, 2,888 students obtained 3 "B" grades or above. This included 451 students who obtained 3 "A" grades. Therefore students obtaining 3 "A" grades are guaranteed admission to medical degree programmes, while more than 50% of students obtaining 3 "B" grades or above are likely to enter medical degree programmes. Furthermore, all students scoring 3 "B" grades or above have the opportunity to gain admission to a health professions degree programme. Biology stream students obtaining a minimum of 1 'B" grade and 2 "C" grades were likely to gain university admission.

Conclusion

Approximately a quarter of placements available to biology stream students are in medicine, contrary to the common perception of limited opportunities. Only 30% of medical degree placements were filled by students obtaining 3 "A" grades, which does not support the common perception that entry to medical degree programmes require very high grades. It is of concern that the intake of students for degrees in other health professions is disproportionately low, leading to an imbalance of skills mix among graduates in the health professions serving the health sector of the country. The number of placements in other health professions should be expanded towards a more balanced skills mix. Education and health policy makers should consider the available data and projections on human resource requirements rather than popular perceptions when planning state and non-state sector higher education opportunities.

FACTORS INFLUENCING THE ACCEPTANCE OF MEDICAL STUDENTS' PARTICIPATION IN PELVIC EXAMINATION OF OUT-PATIENTS FROM DEPARTMENT OF OBSTETRICS AND GYNECOLOGY

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Background and Aims

Pelvic examination in gynecologic patients is an important basic procedure needed to be practiced in clinical teaching. It involves in the most private part of the patients; therefore, they might not accept the medical students' participation. Patients' non-acceptance may affect medical students' learning experiences and clinical skills. This cross-sectional study aimed at determining factors influencing the acceptance of medical students' participation in pelvic examination of out-patients from Department of Obstetrics and Gynecology.

Methods

This cross-sectional study was conducted from October 2017 to November 2017 in Naresuan University Hospital in Phitsanulok, Thailand and 198 subjects were selected by systemic random sampling. Likert scale questionnaire was designed with topics of patients' attitude and factors influencing patients' acceptance in pelvic examination by medical students under supervision of their medical teachers.

Results

Most of gynecologic out-patients accepted the participation of medical students in pelvic examination (71.7%). Prior physical examination in other departments with medical students as well as prior pelvic examination experiences with medical students significantly influenced the patients' acceptance (P-value < 0.001). Fifty-six percent of patients preferred medical teachers to ask for permission before medical students' participation. The performance of medical students, including cleanliness, manner, and trustworthiness also had high impact on patients' attitude and acceptance. From patients' point of view, gender of medical students was not problematic. Approximately 40% of patients were afraid that having pelvic examination by medical students would break their confidentiality. However, most of the patients (81.3%) strongly agreed that permission on pelvic examination by medical students contribute to the undergraduate training and medical education.

Conclusion

The majority of patients accepted the participation of medical students in pelvic examination and preferred medical teachers to be a person to ask for patients' permission. Importantly, patients' confidentiality must be concerned. Most of patients were appreciated to be a part of medical training. Nevertheless, improvement of medical students' performance is a crucial factor to get the patients' acceptance.

ACHIEVEMENT OF EDUCATIONAL OUTCOMES FROM GRADUATES' AND CLINICAL SUPERVISORS' PERSPECTIVES: A QUALITATIVE STUDY OF CURRICULUM EVALUATION

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Background and Aims

Educational outcomes are the key determinants of the quality of a curriculum besides the graduates' actual performance. The stakeholders' perception of the achievement of educational outcomes is a good indication of the success or failure of an institution in delivering its curriculum.

Methods

In this qualitative study, two groups of stakeholders (graduates of the medical program and clinical supervisors in the teaching hospital) were selected to evaluate the educational outcomes of UNISBA's medical programme. A semi-structured interview was conducted with three graduates and four clinical supervisors in three teaching hospitals. The duration of the interview was around 45 to 60 minutes per person. All interviews were transcribed verbatim and analysed thematically.

Results

Five domains were identified by both graduates and clinical supervisors as important indicators for determining the achievement of educational outcomes: 1) clinical skill expertise; 2) communication skill expertise; 3) attitude toward the patients; 4) initiative toward their tasks and works; and 5) inter-professional team working skill. There were other domains identified by the graduates' as important for their clinical practice. These are professionalism and, clinical decision making.

Conclusion

Since the educational outcomes is a major determinant of the success of a medical program, the medical education institution must consider the development of an appropriate curriculum evaluation instrument to enhance the professional behaviour of its graduates. The domains identified by the stakeholders will be the main domains included and assessed in the curriculum evaluation instrument that will be developed and tested by the end of this study.

FREE COMMUNICATIONS 4 – INTERPROFESSIONAL EDUCATION

Learning Over Professional Borders in an Acute Medical Ward not Dedicated to Interprofessional Education – An Ethnographic Study
Anna Kiessling, Sweden

TriGenerational Homecare: A Case Series on the Qualitative Benefits of Student-Initiated Home Visits to Frequently Readmitted Patients
Chew Sher Mein, Singapore

Perceptions and Attitudes of Medical, Nursing and Pharmacy Students Towards Inter-Professional Education (IPE): A Project on Patient Safety at Prince of Songkla University
Arnuparp Lekhakula, Thailand

Facilitating Staff Learning and Engagement in Palliative Care Provision in Dementia: A Participatory Action Research
Tan Lay Ling, Singapore

Breastfeeding Training Workshops for Polyclinic (Primary Health Care) Nurses to Improve Community Support for Breastfeeding
Yvonne Ng Peng Mei, Singapore

Changing Interprofessional Hierarchies? A Comparative Linguistic Analysis of Pharmacy Student Politeness between 1995 and 2016
Elise Paradis, Canada

Empowered Living: A Self-Management Education Programme for People Living with HIV in Singapore
Nicole Wong, Singapore

Action Research to Facilitate the Learning of Psychiatry through Movies in a Community Mental Health Programme
David Teo Choon Liang, Singapore

LEARNING OVER PROFESSIONAL BORDERS IN AN ACUTE MEDICAL WARD NOT DEDICATED TO INTERPROFESSIONAL EDUCATION - AN ETHNOGRAPHIC STUDY

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Background and Aims

Interprofessional learning (IPL) primarily takes place in environments dedicated to interprofessional education (IPE). Learning in such contexts are scientifically well explored. However, learning across professional borders occurring in regular healthcare environments is far less studied. There is a need for further studies of the potential for and obstacles to IPL in such environments. This study aims to explore if and how IPL activities occur in an acute medical ward not dedicated to IPE.

Methods

In total, 27 ethnographic observations were conducted, lasting on average three to four hours each. Observations were performed primarily during morning, afternoon and evening shifts Monday to Friday when medical and nurse students' were present in the acute medical ward. Field notes were taken, transcribed and analysed qualitatively based on the fundaments of IPE: Learn with, from and about. Twenty-one medical students, 4 nurse students, and 30 supervisors were present during the observation period.

Results

Learning with - there were no organised IPE activities. Instead, medical and nurse students were learning in parallel. When participating in the same round they seemed detached from each other and the only interprofessional interactions observed were with staff members. However, there were situations when interprofessional learning could have been supported. Learning from - During the clinical placement, both medical and nurse students interacted regularly with external professional experts and staff through professional borders. Interprofessional supervision was expressed as important for both medical and nurse students.

Nurse students' supervision by physicians focused on theoretical questions and instructions on how to perform medical examinations. Auxiliary nurses' supervision of nurse students focused on e.g. bed-making or basic care of a bedbound patient. Interprofessional supervision of medical students by nurses focused on how to perform technical skills, e.g. measuring blood pressure. Learning about - When the students' arrived at the ward they had to adapt to the variety of activities performed by different professionals. Students were observed watching and learning about tasks conducted by staff from different professions, and how the staff interacted with each other. However, no observations indicated learning about other professions by observing or interacting with other students.

Conclusion

Interprofessional supervision was fairly common. Although interprofessional learning activities differed between observed student groups with more theoretic questions and answer between nurse students and physicians comparable to more practical skills training for medical students supervised by nurses. IPL activities between students from different professions was rather passive and not organised or facilitated. The potential of active IPL in an acute medical ward not dedicated to IPE was not fully utilised or facilitated, even though the learning environment provide great possibilities for more IPE and not just learning in parallel.

TRIGENERATIONAL HOMECARE: A CASE SERIES ON THE QUALITATIVE BENEFITS OF STUDENT-INITIATED HOME VISITS TO FREQUENTLY READMITTED PATIENTS

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Background and Aims

Singapore's rapidly aging baby boomer generation means a sharp increase in the number of elderly individuals, with the proportion of those above 65 years of age projected to reach 28% by 2030. To manage the increasing healthcare needs posed by the elderly, Singapore's healthcare system has become increasingly decentralised, with emphasis on primary and preventive care at the community level. This requires seamless coordination between outpatient services, caregivers and healthcare providers. TriGenerational HomeCare (TriGen) was conceptualised in line with this development in Singapore's healthcare model to help elderly residents cope with their chronic ailments in the home environment. In this programme, interprofessional teams consisting undergraduate students from Medicine, Nursing, Pharmacy and Social Work are paired with secondary school students and undergo introductory geriatric sessions, which enable them to conduct home visits for the elderly over a 6-month period.

Methods

A case series was conducted to explore the qualitative benefits of the programme through the analysis of 4 patients' journeys through it. Each patient demonstrates an aspect in which TriGen teams are able to meet the psychosocial needs of frequently admitted and often socially isolated elderly. Each theme is analysed in the context of TriGen to demonstrate the effectiveness of home-based care and to highlight the unique aspects of TriGen in meeting the needs of the elderly.

Results

The TriGen students provided companionship, demonstrated in the case of the socially isolated, medically stable Mdm V, who was extremely enthusiastic with engaging the students about her life. She welcomed the TriGen students who provided a palpable respite from her loneliness. Through the interactions with Mdm V, they were also able to identify some potential high fall risk medications and bring them to the attention of the medical team. The students performed a home assessment for Mdm T who had many co-morbidities and lived with her schizophrenic son. They helped to reduce the clutter in her house over the course of a few visits, hence decreasing her fall risk. They also implemented various interventions to increase her medication compliance. The university students' healthcare background enabled them to conduct patient education, exemplified in the case of diabetic Mr J, where they educated him on glycemic control through diet and exercise, significantly reducing his blood glucose over the course of a few visits. Finally, the TriGen students took steps to empower the elderly and encourage an active lifestyle, as seen in the case of Mr K, when they gave him the opportunity to venture out of his normal routine by bringing new activities to his home and taking him out on excursions.

Conclusion

Previous cohort studies showed that home visits programmes reduce admission, disability and mortality, but few of such programmes in the literature are assessed in the area of psychosocial support. This is an area where a student-led home visit programme can potentially have a huge impact on reducing loneliness and medical complications. TriGenerational HomeCare does this through the four themes of providing companionship, home assessment, patient education and empowering the elderly to lead healthier lifestyles.

PERCEPTIONS AND ATTITUDES OF MEDICAL, NURSING AND PHARMACY STUDENTS TOWARDS INTER-PROFESSIONAL EDUCATION (IPE): A PROJECT ON PATIENT SAFETY AT PRINCE OF SONGKLA UNIVERSITY

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Background and Aims

IPE is an essential step in preparing a collaborative health workforce to improve quality of health care in light of input from other professions. IPE occurs when students from two or more professions learn about, from, and with each other (WHO, 2010). IPE project on learning patient safety in undergraduate program was conducted at Prince of Songkla University. This cross-sectional study is designed to explore perceptions and attitudes on IPE among healthcare students.

Methods

Learning on patient safety was organised for 406 healthcare students including the 6th year medical students, the 4th year nursing students and the 5th year pharmacy students. They were assigned in groups of 11-12 students with 3-4 faculty. The program consisted of half-day introductory workshop, patient ward visit, small group discussion and presentation of proposed action on problems defined. A before-after study with 5-point Likert-scale questionnaire was conducted for assessing students' perceptions and attitudes related to inter-professional learning. It was modified from the Readiness for Inter-professional Learning Scale questionnaire, consisted of 18 items. They were classified into 5 subscales: values for inter-professional practice (IPP) (6 items), roles and responsibilities (3 items), communication (2 items), teamwork (4 items), and negative aspects of IPE (3 items).

Results

Three hundred and twenty-eight students completed questionnaires giving response rate of 80.8%. They included medical students 90.3%, nursing students 66.5% and pharmacy students 89.8% of their own classes. The alpha reliability coefficients were 0.924 and 09.09 for pre- and post-survey, respectively. The students perceived that IPE led to significantly better subscale scores in all inter-professional core competencies (p = 0.000 in all subscales). There was also significant improvement in understanding problems of patient safety (p = 0.000), rational drug use (p = 0.000), infection control (p = 0.000) and patient discharge plan (p = 0.000). However, they also concerned on time constrain and stress on learning. Between group analysis showed there were statistically significant difference among the student groups on values for IPP (p=0.007), roles and responsibilities (p=0.019), and teamwork (p=0.045). Post-hoc comparison indicated that pharmacy students significantly more agreed with IPE in all three subscales (p<0.05), compared to the other two groups.

Conclusion

The students who participated in IPE project felt appreciation on collaborative context, had high perceptions and favourable attitudes towards inter-professional learning. This will lead to more understanding patients' problems, better patient care and safety. IPE is an important approach for preparing healthcare students to develop inter-professional core competencies and to improve health outcomes in a team environment. It is a major challenge for designing, implementing and managing issues with careful consideration in the undergraduate curriculum.

FACILITATING STAFF LEARNING AND ENGAGEMENT IN PALLIATIVE CARE PROVISION IN DEMENTIA: A PARTICIPATORY ACTION RESEARCH

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Background and Aims

With Singapore's ageing population, there has seen an increase in people with advanced dementia requiring palliative care support. Community Psychogeriatric Program (CPGP) is a program set up to improve the mental health of older persons who are unable to access hospital or outpatient services. Care staff undertook an investigation into their practice to explore how they could develop strategies to support a palliative care approach to home-based care provision.

Methods

An action group research method was utilised to involve staff in processes whereby they have an opportunity to reflect on and critique their clinical practice. Six identified members comprising nurses and resident physicians participated in a recurring helical cycle that involves problem identification, planning, taking action, collecting data, analysis and reflection and re-planning. Four meetings were convened over 6 months to complete the first action cycle. Detailed meeting notes and audio recordings were made to capture the reflections and strategies of the team members.

Results

This first action cycle revealed unclear understanding of the concept of 'palliative care approach'. Staff also had different views on how and when to initiate advanced care planning. Through the action group meetings, members were able to identify learning needs and source for workshops and trainers to address competency deficiencies. A checklist was also drafted by team members to assess clients' readiness to engage in end-of-life care. Analysis of the data collected during a pilot run of the checklist was positive. Staff reflected that the action research process helped them to be more confident in adopting a palliative care approach.

Conclusion

The participation in this action research helped to generate solutions to equip care staff in their palliative care skills. As the strategies were generated by the staff, they were better accepted and adopted.

The participatory action research methodology was effective in developing strategies for facilitating staff learning and engagement in a palliative care provision. The process was collaborative, flexible and circular and allowed action with change and improvement simultaneously with research and evaluation.

Schemes to improve the quality of learning should be derived from a paradigm that embraced change, which is one of the characteristics of the action research methodology.

BREASTFEEDING TRAINING WORKSHOPS FOR POLYCLINIC (PRIMARY HEALTH CARE) NURSES TO IMPROVE COMMUNITY SUPPORT FOR BREASTFEEDING

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Background and Aims

Since 2010, 3 government hospitals in Singapore have been accredited as Baby Friendly Hospitals, resulting in improved hospital support for every mother- baby to exclusively breastfeed from birth. In 2011, the Singapore Infant Feeding Survey showed that breastfeeding rates were low: exclusive breastfeeding rates were 50% at hospital discharge, 36% at 1 month and 27% at 2 months post -birth. Successful breastfeeding requires continual support post- discharge in the community. Therefore, the Association of Breastfeeding Advocacy Singapore (ABAS) organised a series of workshops as a community outreach program to create a breastfeeding friendly environment and support centre at the polyclinics.

Methods

In Singapore, many infants have jaundice checks and vaccinations at the polyclinics. Polyclinic nurses, as first-line healthcare staff, are in a good position to become breastfeeding advocates when trained on management of breastfeeding. The training program was modeled after prerequisites for Staff Training (Step 2) of the "10 Steps to Successful Breastfeeding" for a Baby Friendly Hospital. The goal was to equip nurses with knowledge and skills to provide practical support for breastfeeding mothers in the community. The 4- hour workshops included lectures on the Baby Friendly Hospital, breastfeeding challenges (insufficient breast milk, sore nipples, engorgement, mastitis); Case studies and Role-playing sessions using breast models and dolls. The workshops were facilitated by a doctor and nurses who are qualified lactation consultants. Polyclinic nurses from all 3 health clusters were invited to participate. Prior to the second workshop, nurses surveyed mothers attending their polyclinics at the first month post-birth on common breastfeeding challenges faced by the mothers. Nurses were requested to complete a post-workshop survey on course content, structure and venue.

Results

Three workshops in 2017 and 2018 were attended by 143 nurses from 20 Polyclinics representing all 3 health clusters in Singapore. The post-workshop survey was completed by 74 participants, 100% strongly agreed and agreed that information presented were useful and relevant for their work. Specific suggestions were to have on-site training at each polyclinic guided by lactation consultants, and to provide ongoing breastfeeding training for primary care staff. The workshops were also a useful platform to exchange information on current activities supporting breastfeeding in Singapore. Among 156 mothers who completed the survey on breastfeeding challenges in the first month, the top 3 problems were inadequate breast milk, nipple pain and difficulty latching, which were topics included in the training workshop.

Conclusion

The polyclinic nurses found the breastfeeding training workshops useful, with knowledge and skills learnt applicable for their work. The workshops also provided hospital-based doctors and nurses opportunity to engage with and share ideas and practices with community health providers. Successful breastfeeding requires close cooperation of all health professionals, in order to provide seamless support to mothers in their breastfeeding journey, as they transition from hospital to community care.

CHANGING INTERPROFESSIONAL HIERARCHIES? A COMPARATIVE LINGUISTIC ANALYSIS OF PHARMACY STUDENT POLITENESS BETWEEN 1995 AND 2016

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Background and Aims

Students in the health professions learn where they stand in the hierarchy of the system of professions and are socialised into the proper ways of interacting with other professionals. A study by Lambert (1995) demonstrated how pharmacy students' (n=86) internalisation of their position of subordination is reflected in their use of language during a hypothetical scenario. This study illustrated levels and forms of politeness in imagined pharmacist/physician conversations that reinforce social distance between them and establishes the physician as the most authoritative, and most powerful, actor. To determine any change in the pharmacy profession, we replicated this study with a contemporary cohort of Canadian pharmacy students.

Methods

Lambert's and our study draw on politeness theory that states that politeness is a tool one uses to minimise the loss of "face" (positive social value one claims for oneself) in an individual upon whom one must commit a "face threatening act" (FTA). Politeness strategies can be divided into four strategies, from least to most polite: bald-on-the-record, negative politeness, off-the record, positive politeness, and omission. We collected answers to a hypothetical scenario from 52 first-year pharmacy students. Comparing our data with the 1995 data, we tested the four following hypotheses using two-sample z-tests for proportions: Hypothesis 1: Bald on the record allergy reports were as likely to be made in the 2016 cohort as in the 1995 cohort; H2: Bald on the record drug recommendations were as likely to be made by 2016 cohort as in the 1995 cohort; H3: Recommendations were as likely to be omitted by the 2016 cohort as the 1995 cohort.

Results

Hypothesis 1 was supported (z=0.46, two-tailed p=0.64): Bald on the record allergy reports were as likely in 1995 and 2016. Hypothesis 2 was not supported (z=3.28, two-tailed p=0.001): Bald on the record drug recommendations were made more often in 2016 than 1995. Hypothesis 3 was not supported (z=-2.60, two tailed p<0.01): Recommendations were omitted more often in 1995 than in 2016. Students were significantly bolder and less polite in their 2016 recommendations than they were in 1995.

Conclusion

A pattern of politeness seen in pharmacy students suggests that these students are confident in their assertions of expertise in clinical scenarios. These students did not show greater hesitance in performing an act that is traditionally more face-threatening to physicians (drug recommendation) than in performing a routine traditional pharmacist act (allergy report). This adoption of an identity of clinical expert contrasts with the reticent attitudes of students in the study by Lambert 20 years earlier. Whether this is due to a broad change in the understanding of professional roles, power, and boundaries in the intervening time or instead is showing the differences in attitudes in students just entering a professional program and later on deserves further research. It would benefit IPE educators to pay attention to the anticipatory socialisation of health professions students and encourage behaviours that reflect egalitarian interprofessional power distribution so as to minimise the deleterious effects of power dynamics on collaborative practice.

EMPOWERED LIVING: A SELF-MANAGEMENT EDUCATION PROGRAMME FOR PEOPLE LIVING WITH HIV IN SINGAPORE

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Background and Aims

Self-management education programs for patients with chronic conditions such as diabetes and asthma have been widely implemented and considered important adjuncts to medical care. Successful treatment of human immunodeficiency virus (HIV) infection similarly requires high levels of patient adherence and engagement, yet fewer patient education programs exist. Empowerment of newly diagnosed people living with HIV (PLHIV) through the provision of patient education and psycho-social coping skills early in the course of infection may especially have a profound impact on quality of life and other patient outcomes. Here, we describe the development and implementation of a self-management patient education program in Singapore and early results.

Methods

The Empowered Living Program was established in 2012 and is a medical social worker led patient education initiative between the HIV care centres of the National University Hospital and Singapore General Hospital. Program developers and facilitators are multidisciplinary HIV healthcare providers and include physicians, nurses, social workers and pharmacists. The educational content was designed to address the educational and psychosocial needs of PLHIV in Singapore, especially those who are newly diagnosed. The program engages PLHIV in an intensive 2-day program which covers topics including disclosure, nutrition, mental health, HIV treatment and adherence. The program is run twice a year, with a half day 'reunion' 3 months later. In addition to providing essential knowledge for self-management, the program aims to reduce the high rates of social isolation faced by PLHIV in Singapore by promoting well-being and psychological health through peer support and social connections.

Results

Since 2012, 69 PLHIV have attended the program. Sixty-two (89.9%) of participants between December 2012 and November 2017 rated the program as highly effective and informative. Sixty-six (95.7%) of participants rated the Understanding HIV, Treatment and Adherence, Sexual Health, Mental Health and Financial Support sessions as highly informative, practical and useful. Sessions such as Art Therapy and Life Sharing & Testimony were evaluated as providing encouragement and a more positive outlook by 59 (85.5%) of participants. Qualitative feedback of the program has also been positive. In the words of one of the participants, "Dear social workers, thank you for not giving up on us, for providing us hope when the going gets tough. Thank you for impacting our lives for the better."

Conclusion

The Empowered Living Program is a positively received educational intervention for PLHIV in Singapore. Because HIV care requires high levels of adherence and patient engagement, education in self-management can be a significant contributor to patient health, however evidence of program effectiveness is needed. Research into the quality of life outcomes of participants before and after the program, and non-participants is planned.

ACTION RESEARCH TO FACILITATE THE LEARNING OF PSYCHIATRY THROUGH MOVIES IN A COMMUNITY MENTAL HEALTH PROGRAMME

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Background and Aims

Movies have been used in health professions education in various ways across different medical disciplines. As a medium of communication and entertainment, movies transcend age, cultural and professional boundaries. The use of movies in health professions education is premised on their ability to evoke strong emotional responses, stimulate reflection, and engage learners in discussion as part of the active learning process. Changi General Hospital's community mental health programme has conducted two "Psychiatry in the Movies" events as an innovative platform to teach community partners (CPs) to recognise and manage common psychiatric conditions. CPs include family physicians and voluntary welfare organisation staff with nursing and allied health training backgrounds. Psychiatrists and clinical psychologists also attend to co-facilitate post-movie discussions. After screening a movie with a psychiatric theme, a large group discussion is facilitated by a psychiatrist or psychologist. During this segment, participants are invited to share reflections and ask questions about the psychiatric conditions, treatments and other related issues such as stigma that were portrayed in the movie. Following the first session, CPs gave feedback that they enjoyed the movie and discussion, but had difficulty taking home clear learning points. We aimed to understand this educational problem from both facilitators' and CPs' (learners') perspectives, and to collaboratively generate ideas to facilitate learning psychiatry through movies.

Methods

We adopted the action research methodology to facilitate CPs' learning through "Psychiatry in the Movies" sessions. Following the first session, we surveyed participants using a web-based software to understand their perceptions of the usefulness of using movies to learn psychiatry and their learning experience. CPs' suggestions were sought on how to facilitate the learning of psychiatry through movies (reflect). Survey results were discussed by a core group of facilitators who brainstormed on how to improve future sessions to better meet CPs' learning needs (plan). Using CPs' suggestions, facilitators drew up discussion points to guide the post-movie discussion in the second session (act). CPs gave feedback that the more structured and explicit discussion of specific topics in the second session facilitated their learning (observe). Future reflect-plan-act-observe cycles including focus groups with participants have been planned to further improve this teaching method.

Results

Most participants from the first session felt that "Psychiatry in the Movies" was a useful and innovative platform to learn about symptoms and management of mental illnesses and other mental health-related issues. Most were keen to participate in future sessions. However, CPs felt that learning objectives were unclear and structured discussions with a clear outline would facilitate their learning. After changes were made to the post-movie discussion facilitation to meet the CPs' needs, they reported an improved learning experience.

Conclusion

Action research is a flexible circular process that allows understanding and change to be achieved concurrently in addressing educational problems. As the action for change was developed by the participants, the changes made helped meet the CPs' learning needs better. Through action research, innovative teaching methods can be refined to meet learners' needs. Facilitating a shared understanding of learning objectives through this method can improve educational outcomes.

FREE COMMUNICATIONS 5 – TEACHING AND LEARNING I

Empathy Training for Medical Students through a Blended Learning Communication Skills Training Programme: A Mixed-Methods Study
Jacqueline Yuen, Hong Kong S.A.R.

A Comparison of Jigsaw Collaborative Learning with Didactic Lectures in the Teaching of Clinical Pharmacokinetics in Special Populations
Chng Hui Ting, Singapore

Implementing Integrated Teaching for the Delivery of an Undergraduate Specialties Curriculum: The E.N.T.E.R (Ent, Eyes, Radiology) Pilot
Ruth Chen, United Kingdom

Effectiveness of Peer Feedback to Enhance Learning in Problem-Based Tutorial Groups
Desi Isnayanti, Indonesia

Which Degree Structure Prepares Medical Students for Research?
Richard Hays, Australia

The Effects of an Intensive Orientation Course on Stress, Perceived Difficulties, and Confidence Levels in Postgraduate Year 1 Doctors Starting a Paediatric Posting in a Tertiary Hospital
Tan Mae Yue, Singapore

Students' Appraisal of their Emotional Experiences with Cadaver Dissection and their Views Upon the Use of Cadavers to Learn Anatomy
Sann Lin Ko, Myanmar

Re-designing Clinical Patient Safety Orientation for New Doctors at an Academic Medical Centre in Singapore
Nokuthula Kitikiti, Singapore

EMPATHY TRAINING FOR MEDICAL STUDENTS THROUGH A BLENDED LEARNING COMMUNICATION SKILLS TRAINING PROGRAMME: A MIXED-METHODS STUDY

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Background and Aims

Empathy is an important foundation of the doctor-patient relationship and leads to improved patient and physician satisfaction as well improved clinical outcomes. Studies have shown a decline in empathy levels among medical students over the course of their medical education and the lack of effective empathy training has been postulated to be an underlying reason. However, what constitutes effective empathy training remains a question that continues to be debated in medical education. This study aims to examine this question through evaluating the impact of a communication skills training program that focuses on teaching medical students the skills in responding to emotion in serious illness conversations as a key learning outcome.

Methods

An enhanced one-week long communication training program using blended learning will be delivered to sixth-year medical students (N=214) in the 2018-2019 academic year. It consists of a 2-hour small group tutorial for experiential learning via role-play, and pre- and post-tutorial online training consisting of e-Lectures, interactive, video-based exercises and reflective writing. A mixed-methods approach for program evaluation will be used. Changes in students' self-efficacy in empathic communication skills over time will be assessed using self-administered questionnaires pre-training, 6-weeks, and 6-months post-training using paired t-tests. Additionally, changes in students' attitudes toward empathy in clinical care will be measured with the Jefferson Scale of Empathy - Medical Students version (JSE-S) at the same time points. Qualitative data in the form of video recordings of the small group tutorials as well as students' written reflections on the course will be imported into qualitative analysis software (Nvivo) and undergo coding by two independent researchers, using thematic analysis based on grounded theory until data saturation is achieved.

Results

In the evaluation of the pilot phase of this communication skills training program on serious illness communication for sixth-year medical students in Hong Kong (N=185), 78% of students noted that they learned about empathy in their reflective writings on the key lessons from the program. Content analysis illustrated that the lessons around empathy fall into 3 themes: the skills in perspective-taking (cognitive empathy), the skills in communicating empathy (listening, nonverbal and verbal communication skills), and attitudes about the importance of physician empathy in clinical care.

The study cohort of 214 medical students in the sixth-year class will have completed the communication training program by the end of the 2018-19 academic year. The authors will report the preliminary results for the pre-post (6 week) comparison and qualitative data from the on-going thematic analysis of video recordings and course reflection for approximately half of the class.

Conclusion

Preliminary evaluation of a pilot communication skills training program has shown that such a program has the potential to impact on the attitudinal and skills-based dimensions of clinical empathy. Examining the impact of the communication training program through a mixed-methods approach combining both qualitative and quantitative analyses may provide important insights on how such a program can be effective for empathy training.

A COMPARISON OF JIGSAW COLLABORATIVE LEARNING WITH DIDACTIC LECTURES IN THE TEACHING OF CLINICAL PHARMACOKINETICS IN SPECIAL POPULATIONS

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Background and Aims

Clinical pharmacokinetics in special populations (Clinical PK) was traditionally taught via didactic lectures to third year Pharmacy undergraduates in the National University of Singapore. Lectures covering concepts in five special populations were content-heavy and transmissive. Therefore, a student-focused and interactive content learning approach was implemented in the teaching of concepts related to three of the special populations. This study evaluates the effectiveness of the jigsaw collaborative learning method in comparison with didactic lectures in the teaching of Clinical PK.

Methods

A total of 191 students from a class size of 192 attended the jigsaw collaborative learning session, which was conducted in two repeated sessions, comprising half the class each. The number of students who attended the lecture was not recorded as it was webcasted and attendance was not compulsory. Students were taught via one didactic lecture for the topic "Clinical PK in Renal and Hepatic Diseases", followed by one jigsaw collaborative learning session for the topic "Clinical PK in Geriatrics, Paediatrics and Pregnant Women". In the jigsaw method, students were assigned the "expert" topic of either "A" (absorption), "D" (distribution), "M" (metabolism) or "E" (excretion). Students were required to read the relevant sections related to their expert topic from pre-class readings. During class, students sat in their expert groups of four to discuss, summarise and compare the PK changes in the three populations in a template provided using a Google sheet. Thereafter, they convened in their home groups which consisted of one expert member on "A", "D", "M", and "E" to teach one another their expert content. A pre-test-post-test repeated measure design was adopted to assess effectiveness. Data collected included pre-/post-quiz scores, and post-intervention student perception survey on active participation, confidence and conceptual understanding. The responses were non-identifiable nor coded, therefore only descriptive statistics was used for data analyses.

Results

The pre- and post-home group discussion quiz median percentage for correct responses improved from 57.1% (n = 176) to 71.4% (n = 168), respectively, while the pre- and post-lecture quiz median percentage for correct responses improved from 66.7% (n = 118) to 88.9% (n = 110). 80% (n = 107) and 87% (n = 99) of the respondents agreed that they participated actively in the expert and home group discussions of the jigsaw method respectively, as compared to 51% (n = 84) for the lecture. While students felt more confident in teaching their peers during the jigsaw sessions versus the lecture, the lectures were perceived as being helpful in facilitating their conceptual understanding of the topics.

Conclusion

The jigsaw collaborative learning method was effective and generally well received in the teaching of Clinical PK. The benefits of this method was evident from the students' active participation during the expert and home group discussions. It also provided opportunities for collaboration and empowered students to participate in peer teaching.

IMPLEMENTING INTEGRATED TEACHING FOR THE DELIVERY OF AN UNDERGRADUATE SPECIALTIES CURRICULUM: THE E.N.T.E.R (ENT, EYES, RADIOLOGY) PILOT

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Background and Aims

We observe a recent shift from the traditional "Flexnerian" medical curriculum to a more integrated, defragmented approach breaking down barriers between subjects. This approach enhances learners' retention and application of knowledge. Horizontal curriculum integration occurs across different disciplines over a fixed time to interlink these within a spiral curriculum. Disciplines such as Ophthalmology, Otolaryngology and Radiology, are consistently underrepresented throughout UK medical curricula and benefit from this approach. We therefore introduce an educational intervention, which actively interlinks these specialties and the complex conditions that span across them. We also analysed student perceptions of integrated teaching and its impact on their learning.

Methods

4th year University of Nottingham medical students participated in a workshop which was designed utilising Fogarty's methodology for integration across the disciplines. Simulated, static and interactive teaching stations were designed around specific themes that mapped across all the specialties' learning outcomes. Stations were run under OSCE conditions, and involved a combination of history taking, clinical examination, clinical reasoning, and case-based teaching from the faculty. Students completed both pre and post -single best answer- tests in addition to feedback forms. Feedback was measured using a Likert scale 1-5 (5 most agreeable).

Results

68 candidates were enrolled. 100% of students felt there was a role for integration in improving their learning. 97% reported integration usefulness of at least 4 out of 5 and 82% of students reported no prior experience with integrated learning. Mean confidence level before the workshop was 2.81 (SD=0.78), increasing to 3.88 (SD=0.56) post intervention. Mean rated competency level before and after intervention was 2.59 (SD=0.83) and 3.74 (SD=0.68) respectively. The two-tailed p value is < 0.0001, reflecting significant difference. Improvements in test scores per theme following intervention were as follows: red eye in facial nerve palsy by 43%, orbital cellulitis and clinical examination by 17% and radiology of ingested foreign bodies by 64%.

Conclusion

Overall, students expressed a very positive attitude towards integrated teaching. They reported increased awareness of the interplay between specialties, enjoyed the interaction with simulated patients, and valued the practice under OSCE conditions.

We demonstrate from this workshop the feasibility of a practical educational intervention that helps transcend the barriers imposed by the fragmented traditional curriculum. This intervention is the first of its kind, and its success has proven that integration between specialties provides a good platform for learning. This can be applied with other specialties such as Paediatrics and Healthcare of the Elderly.

EFFECTIVENESS OF PEER FEEDBACK TO ENHANCE LEARNING IN PROBLEM-BASED TUTORIAL GROUPS

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Background and Aims

Background: peer feedback can enhance and motivate students for learning in problem-based tutorials by recognising their abilities or efforts in tutorial process. peer feedback should give the students about what are good and should be improved, so they can identify strength and weakness of their own.

Aims: to know the effectiveness of peer feedback in problem-based tutorials with measurement of student motivation and score of Maastricht-peer activity rating scale (MPARS)

Methods

this was an experimental study with pre-post test only control group design. The sample was 98 people and was divided into two groups (intervention and control) with systematic random sampling. The intervention group was given peer feedback with MPARS and student motivation was measured with SMQ II questionnaire.

Results

the result based on the data from paired T Test, there were significant difference between in intervention and control groups(p=0.000), on Wilcoxon test pre-test and post-test from control group showed unsignificant result (p=0.976). The result from unpaired T Test from pre-test in both groups showed significant result (p=0.02), the Mann Whitney test for post-test in both groups showed unsignificant result (p=0.100). The result from Freidman Score in M-PARS in intervention group showed significant result in 1, 2, 3, and 4 (p=0.001).

Conclusion

the feedback result with M-PARS were effective in increasing the motivation in tutorial learning showed by average M-PARS result in intervention group. But, the comparison for motivation in both groups showed unsignificant result because there were a different motivation in both sample groups before the experiment.

WHICH DEGREE STRUCTURE PREPARES MEDICAL STUDENTS FOR RESEARCH?

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Background and Aims

In the past 50 years there has been significant change in the way primary medical training occurs in Australia; there are now 20 medical schools with a diverse range of four, five and six-year curricula and either graduate or school-leaver entry. The latest is the re-structure of medical programs to fit the Australian Qualifications Framework (AQF), with most transitioning to an AQF Level 9e Masters (Professional) Degree. Increasing research training opportunities is one way programs have facilitated achievement of the higher-level requirements.

In 2016 we conducted an audit of medical schools in Australia to explore the nature and extent of research training offered.

Methods

A cross-sectional audit seeking information on research knowledge and skills taught.

Results

A total of 14 completed audits reported a variety of curriculum models with AQF Level 7, 8 or 9E outcomes. Three of the participating schools with AQF Level 7-8 qualifications offered standard-entry six-year degrees; three offered standard-entry five-year degrees; and three offered graduate-entry four-year degrees. of the participating schools AQF Level 9E qualifications, one offered a standard-entry, five-year degree (4 year 8 months); and five offered graduate-entry, four-year degrees. Research knowledge and skills taught and applied in student individual and group projects were fairly uniform across all programs, but slightly increased in the six-year Level 7 and the Level 9E programs. Mentored research projects (where students were allocated a research academic or clinician to guide them) were more frequent in the Level 9E programs. Lectures, online learning or resources, individual assignments and presentation to peers were the favoured teaching formats reported in the Level 7 and 8 programs. In Level 9E programs, lectures, online learning or resources, and mentored projects were favoured teaching formats, while presentations to peers or broader audiences were also popular. More diverse teaching formats were reported in the six-year Level 7 and the Level 9E degrees.

Conclusion

At first glance, research training may not seem relevant to work-readiness of recent graduates, but the higher learning outcomes of Level 9E degrees may confer improved ability to make more complex, evidence-based decisions. Understanding research methods may improve the graduates' abilities to critically appraise and implement advances in healthcare over a long career. It has been argued that leadership to improve future health care requires the kind of higher-order thinking and problem-solving that is fostered by research training. Ultimately, expertise develops as a blend of training and experience, and it is possible that achievement of Level 9E learning outcomes may accelerate this.

Barriers to providing research training are similar to those reported elsewhere and expanding research training to all medical students may be difficult to address without substantial investment in research infrastructure and supervision. While the depth of the required research experience may not be too demanding, providing meaningful research experiences for all students appears to be a difficult task, particularly in shorter duration programs. The risk is that research experiences will be mostly academic, and therefore less valuable. Our findings may be of interest to other jurisdictions where medical programs follow diverse curriculum models.

THE EFFECTS OF AN INTENSIVE ORIENTATION COURSE ON STRESS, PERCEIVED DIFFICULTIES, AND CONFIDENCE LEVELS IN POSTGRADUATE YEAR 1 DOCTORS STARTING A PAEDIATRIC POSTING IN A TERTIARY HOSPITAL

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Background and Aims

To assess stress and perceived difficulties of Postgraduate Year 1(PGY1) doctors starting a paediatric posting in a tertiary hospital and the effects of an intensive orientation course in the first week of posting on their stress, perceived difficulties as well as confidence levels.

Methods

PGY1 doctors due for a 4-month paediatric posting at the National University Hospital of Singapore completed a self-administered online survey prior to their posting, eliciting their stress(ranked stress levels from 1-10), perceived difficulties and confidence levels for various clinical competencies(1 to 10, 10 being most confident). They subsequently attended an intensive orientation programme(12 hours of teaching) within the first week of posting, including lectures on common conditions, drug prescription, simulated procedural teaching as well as a formative assessment. They then completed a post-orientation survey reassessing the same areas.

Results

A total of 36 PGY1s rotated through the department from May 2017 through April 2018. All completed the pre-orientation survey, while 33/36 (92%) completed the post-orientation survey.

The average stress level was 6.81 ± 1.24. On average, they perceived the difficulty of the posting as 7.58 ± 1.23. The top stressors contributing to the challenges of the posting included knowledge of the specialty and difficulty in practical procedures.

After the orientation, majority (85%) felt this helped reduce some stress prior to beginning work in the department. Perceived difficulty of the posting however remained at 7.82+/-1.29.

In particular, there were significant improvements in confidence levels with daily ward work such as ordering medications (4.67+/-1.53 to 8.3+/-1.02), ordering fluid drip(5.18+/-1.86 to 8.55+/-1.2), clerking a new admission(6.21+/-1.29 to 7.7+/-1.12) with all p<0.0005.There were also improvements in confidence levels for practical procedures that included insertion of intravenous cannulas in those aged <2 years old (2.42+/-1.28 to 7.33+/-1.69, p<0.005), urinary catheterisation (female patients: 5.95+/-2.22 to 7.24+/-1.71, p=0.014 and male patients 7.15+/-1.72 to 7.39+/-1.69, p=0.602), fingerprick blood test (6.76+/-2.09 to 7.64+/-1.14, p=0.023), lumbar puncture (2.67+/-1.71 to 7.61+/-1.39, p<0.0005). Scores also showed improvement for confidence in performing common on-call duties that included reviewing a patient admitted for gastroenteritis, hyperactive airway disease, or seizures (all p<0.0005).

Conclusion

PGY1 doctors face moderate to high levels of stress when commencing a paediatric posting and perceive the lack of the specialty knowledge and difficult practical procedures as the main difficulties. An organised intensive orientation programme at the start of the posting, covering essential knowledge of common paediatric conditions and a hands-on simulated procedural training can help reduce stress and improve the doctors confidence levels, to aid in an easier start to the rotation. More can be done to improve the perception that Paediatrics is a difficult rotation for junior doctors.

STUDENTS' APPRAISAL OF THEIR EMOTIONAL EXPERIENCES WITH CADAVER DISSECTION AND THEIR VIEWS UPON THE USE OF CADAVERS TO LEARN ANATOMY

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Background and Aims

Cadaver dissection especially at first exposure can be stressful to students and may pose emotional challenges and psychological trauma. Students' appraisal of stressfulness of the situation is important, for making necessary adjustment to procure a favorable learning environment in anatomy.

This study aims to identify the medical students' appraisal of their emotional experiences with cadaveric dissection at first exposure and four months later, and to obtain their views on the use of cadavers to learn anatomy.

Methods

A cross-sectional survey was carried out at the Defence Services Medical Academy, from January 2016 to December 2016 on thirty four, 1st year medical students. The students' perceptions of the cadaver dissection at 1st encounter and 4 months later were obtained using the 16 item, Appraisal of Life Events Scale (ALE) - 5 point Likert scale questionnaire. The scores were used to determine the Appraisal dimensions "Threat, Challenge and Loss" (Lazarus & Folkman's transactional model of stress) . The students' views on the use of cadavers to learn anatomy was also obtained using a 12 item (Yes/No/Neutral) questionnaire.

Results

Majority of students expressed "Challenge" (94%) at first time exposure and (100%) at four months. One student each, expressed "Threat and "Loss" at first time exposure but none at four months. Most students (71%) agreed that cadaver dissection is ethically acceptable and (88%) had sympathy and respect for the cadaver. (71%) of students were mentally prepared for dissection, having been exposed to at least one dead person in the past. (76%) agreed that cadaver dissection was important and indispensable for learning anatomy. On the issue of replacing cadaver dissection with plastic model or computer assisted training programme in the near future, 47% favored but 53% did not favor such replacement.

Conclusion

The findings are encouraging for the anatomy teacher as it is clear that the students' appraisal of the cadaveric dissection experience is positive.

RE-DESIGNING CLINICAL PATIENT SAFETY ORIENTATION FOR NEW DOCTORS AT AN ACADEMIC MEDICAL CENTRE IN SINGAPORE

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Background and Aims

New physician patient safety orientation frequently relies primarily on lectures for an entire day. The recall from lecture-heavy formats is poor and many physicians do not find the orientation useful. A team was established to revamp the curriculum including consultant faculty, residents and staff from the Medical Affairs department. We sought to revamp our hospital's orientation by shifting from lecture to interactive format to increase retention of key clinical safety principles and participant satisfaction.

Methods

Feedback on current staff past experience with orientation was solicited through informal survey and in-person meetings. Original 120 slide lecture was converted into three case studies on medication error, copy & paste error and discussing advance care planning with patients. The team also scripted and filmed a short video highlighting common safety issues in the ward as elicited from ward nurses' narratives. The case studies and short video formed basis of discussion rather than the previous lecture format. MCQs were administered pre and post orientation to measure retention and qualitative feedback was elicited from participants. Quiz results were analysed using R software.

Results

65 participants 52% had ever worked at a Singaporean hospital and 28.9 % had only 0-1 years work experience. Weak areas identified in pre-orientation quiz (questions with <90% doctors with correct response) were hospital policies regarding maximum time from presentation to clinical review (47.7%) and communication with nursing staff on medication orders (78.5%) , knowledge on vaccine-preventable occupational infectious disease exposures (78.1%), institutional epidemiology of needle stick injury (77.8%) and identifying patients with fall-risk (50.8%). In the pre-quiz, average 80.1 +/- 18.2 % correct responses range (47.7-100) compared to 93.0% +/- 7.9 (83 - 100) post-orientation (p=0.023) . Average 12.8 % increase in proportion of doctors answering correctly post-orientation compared to pre-orientation. Qualitative feedback shows new format was positively received.

Conclusion

The new orientation format was positively received by incoming residents. Some negative feedback regarding inclusion of some administrative topics in between the clinical topics. The administrative topics section was not under the team's direction and remained lecture based. We will continue to modify the structure of the orientation by segregating clinical from administrative orientation and we hope to include more topics on mental wellness, clinical management decision-making and actual physical orientation to the buildings which came up during feedback as important but absent features. We will continue to solicit suggestions from residents on how to improve orientation for future batches.

FREE COMMUNICATIONS 6 – POSTGRADUATE EDUCATION

Prevalence of Burnout in Medical Versus Surgical Residents Globally: A Meta-Analysis
Low Zhi Xuan, Singapore

The Use of Standardised Patients and Mock Consultations to Teach Communications Skills in Primary Care Singhealth Polyclinics in Singapore
Hilda Hee Pei Ru, Singapore

An Evaluation Analysis of 12 Months of EPA Assessments in Australian General Practice Trainees
Stephanie Clota, Australia

Development of Entrustable Professional Activities for Infectious Diseases Specialty Training in Singapore
Jolene Oon Ee Ling, Singapore

Tracheostomy Training for Speech Therapists in an Acute Hospital: A Pilot Study Using Simulation-Based Learning and Structured Tutorials
Flora Poon, Singapore

The Grieving Doctor: How UERM Resident Physicians Handle Death of Patients
Edward Santos, Philippines

Safe to Prescribe Soon? Providing a Dedicated Medication Safety Workshop for Internal Medicine Internship Students in a Teaching Hospital in Singapore
Francis Albert Lo, Singapore

Comparison of the Night-Float Versus On-Call System in Residents: A Review on the Short and Long Term Impact on Patient Care and Residents
Yeo Wee Song, Singapore

PREVALENCE OF BURNOUT IN MEDICAL VERSUS SURGICAL RESIDENTS GLOBALLY: A META-ANALYSIS

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Background and Aims

Burnout amongst medical professionals are high and still rising, placing a negative impact on the individual's quality of life as well as patient care. Existing literature, with the aid of measurement tools such as the Maslach Burnout Inventory (MBI), has widely studied and reported the prevalence of burnout amongst trainees from various residency programmes. This meta-analysis aims to provide the global prevalence of burnout amongst residents and compare how it differs between specialties

Methods

The PRISMA guidelines were adhered to. An electronic database search from 1980 to 2017 was performed using PubMed, with all possible combinations of the Mesh terms: 'residents, trainees, burnout, medical, medicine, surgery and surgical'. Studies were only included if they used the MBI and defined burnout as a high score on either the Emotional Exhaustion or Depersonalisation subscales. Data analysis, including subgroup analysis within specialties, was performed with R and random effects model was used to pool the prevalence. Quality assessment and publication bias of the included studies were assessed with the Quality Assessment Tool for Observational Cohort and Cross-Sectional Studies (NIH-QAT) and Egger Regression Test respectively.

Results

The analysis of 47 studies (22,778 residents from 10 countries) has shown that the overall burnout prevalence is 51.0% (95% CI: 45.0% - 57.0%). The prevalence of burnout in surgical residents was 55.1% (95% CI: 47.5% - 62.4%), higher than medical residents at 49.1% (95% CI: 41.2% - 57.2%) but this was not statistically significant (Q = 0.9216, p = 0.3371). Amongst specialties, the prevalence of burnout ranges from the lowest value of 27.82% (95% CI: 11.26% - 53.94%) in psychiatry residents, to the highest value of 64.49% (95% CI: 36.95% - 84.91%) in neurology residents. Amongst different specialties, the prevalence of burnout is comparable (Q = 13.90, p = 0.5328). Geographically, residents in Asia has the highest burnout prevalence of 59.5% (95% CI: 45.2% - 72.3%), followed by 51.9% in North America (95% CI: 45.3% - 58.4%) and lastly Europe at 26.5% (95% CI: 10.9% - 51.4%). Although this was not statistically significant (Q = 9.4346, p = 0.0929), the ranking of specialties according to pooled burnout prevalence follows previous surveys. Quality assessment shows that the methodological quality of our included studies is generally fair and the risk of publication bias is not significant.

Conclusion

Our meta-analysis is the first to study and integrate the prevalence of burnout amongst residents on such a large scale in terms of number of specialties, subjects and countries. We have demonstrated that the challenges and pressures of a resident remains high throughout, regardless of specialisation or country. This highlights a pressing need to address this issue, for example, in the form of new interventions to improve mental health and policies that reduce the workload or work hours of residents.

THE USE OF STANDARDISED PATIENTS AND MOCK CONSULTATIONS TO TEACH COMMUNICATIONS SKILLS IN PRIMARY CARE SINGHEALTH POLYCLINICS IN SINGAPORE

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Background and Aims

Communication lapses can result in wrong information gathering, compromised care, and dissatisfaction for patient and provider. 70% of litigation has been related to poor communication after adverse outcomes. Good communication skills in healthcare setting is an integral component of patient care, enhancing the effectiveness of the doctor as a professional. Expertise with these skills is fundamental to establishing doctor-patient relationship. These skills are core competencies required of all physicians in the polyclinics which cater to a high volume of patients with various medical problems. Our aim was to equip our doctors with necessary communication skills via use of standardised patients and mock consultations, letting them practice in a safe environment while receiving timely feedback. Participants were encouraged to review, reflect and identify areas for improvements.

Methods

A team comprising of senior family physicians and support staff organised the communications skills course. Through face-to-face and email discussions, the team structured the course in the style of four Objective Structured Clinical Examination(OSCE) with mock consultation 'stations' of case scenarios typically encountered in primary care. They were: (1) handling the angry patient (2) breaking bad news (3) managing a patient's request, and (4) taking informed consent for a minor surgical procedure. The participants were taught and practised the main sequence of communication, namely, Engagement, Elicit, Empathise, Educate and End. Standardised patients were trained via use of guide sheets. Senior family physician facilitators observed and gave on-the-spot feedback on both verbal and non-verbal communications, using a structured assessment sheet. Facilitators also suggested on how those communication skills could be further enhanced. 6 weeks after, participants sat a multiple-choice quiz on the core knowledge on communications.

Results

Gaps in communication skills such as forewarning the patient of bad news, assessing the patient for any coping strategies and avoiding use of medical jargon were identified during the mock consultations. Gathering all participants' feedback after the course, 100% agreed the learning objectives were achieved and it was useful and relevant to work. 100% also responded that new knowledge gained from the course would help them better manage patients and overall found the course effective. Participants felt the OSCE cases were realistic, practical and the small group size was conducive for onsite discussion and feedback. Participants requested to attend more similarly crafted communication courses. 87% of participants took and passed the multiple-choice quiz.

Conclusion

Mock consultations and the use of standardised patients are useful tools for teaching communications skills. Challenges encountered include conducting the course during clinic hours, receiving overwhelming interest from clinics to enrol their doctors but being limited by the number of available slots, keeping the participant geared towards demonstrating specific aspects of communications rather than displaying medical knowledge during the course, and assessors only having a limited time to give constructive feedback before the participant leaves the station. Important lessons learnt include the good practice of case writers and assessors rehearsing scripts with the standardised patients beforehand, being prepared for unforeseen circumstances and acting spontaneously, and tight teamwork amongst the organising team for smooth running of the course.

AN EVALUATION ANALYSIS OF 12 MONTHS OF EPA ASSESSMENTS IN AUSTRALIAN GENERAL PRACTICE TRAINEES

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Background and Aims

EPAs are a well-documented method of assessment used in undergraduate and postgraduate settings around the world. The concept of entrustment decision-making, that is deciding how far to trust a registrar to care for a patient, is an attempt to align daily clinical activities with competency based assessment. During 2016, 13 EPAs were developed for Australian general practice training.

The aim of this research was to determine if EPAs developed are a robust assessment item for GP registrars of learning and for learning.

Methods

An evaluation of the EPA assessments completed was undertaken. Supervisors completed an EPA assessment four times during 2017 for 131 junior trainees and 151 senior trainees. Trainees also completed an equal number of self-assessments using the same EPAs. There was an opportunity for comments after each EPA. The levels of entrustment for all EPAs were analysed and the comments for a random sample of junior and senior trainees coded.

Results

Analysis of the EPAs demonstrated supervisors utilised all levels of entrustment in marking their trainees, from needing frequent in-room review to being able to practice unsupervised. Similarly, each EPA had different distributions of entrustment indicating supervisors considered each EPA separately. Levels of entrustment for all 13 EPAs were higher for senior trainees compared to junior trainees and there was growth in level of entrustment seen over time for both senior and junior trainees. There was correlation between the level of entrustment marked by supervisors and the self-reflection analysis by the trainee.

Qualitative data analysis of the feedback narrative about each EPA by supervisors and trainees indicate the narrative covers a broad range of areas including competency, specific advice, technique, experience, specific gaps, confidence, requirement for supervision, behaviour, performance and progress. The narrative for junior trainees were more specific and of higher quality than the narrative for senior trainees.

Conclusion

The EPAs developed are a valuable assessment tool which are able to demonstrate differentiation between senior and junior trainees, demonstrate growth over 12 months; and stimulate self-reflection and the provision of narrative rich feedback to the registrar over a broad range of areas.

DEVELOPMENT OF ENTRUSTABLE PROFESSIONAL ACTIVITIES FOR INFECTIOUS DISEASES SPECIALTY TRAINING IN SINGAPORE

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Background and Aims

Background:
Entrustable professional activities (EPAs) represent the core activities essential for professional practice in which residents must attain competency during specialty training. Singapore's infectious diseases (ID) training programs adopted the competency-based framework of the Accreditation Council for Graduate Medical Education-International (ACGME-I) in 2013 and its Next Accreditation System-International (NAS-I) in 2017. NAS-I increases the focus on learner outcomes to improve resident evaluation and highlights the need for robust assessment tools such as EPAs. The ID Senior Residency Programs sought to develop these EPAs in a national collaborative effort.

Aims:
To describe the development of EPAs for ID Senior Residency Programs in Singapore.

Methods

Key stakeholders in the ID education community participated in the collaborative EPA development process. These included representatives of the national ID Residency Advisory Committee (RAC), as well as program directors and core faculty from the three institutions sponsoring ID specialty training in Singapore. The group met six times over the course of one academic year. Meetings composed of milestones and EPA development workshops organised by the ACGME-I and Ministry of Health's Professional Training & Assessment Standards Division, as well as small writing group sessions. The initial phase of the project involved collectively identifying the core activities that define an ID physician's professional practice. This was followed by building a detailed description of each activity, including learning objectives, teaching and assessment tools as well as levels of supervision required to assess the resident for entrustability. Each EPA was further developed by 1-2 group members using a template adapted from Professor Olle ten Cate, University Medical Centre Utrecht, the Netherlands and refined using the EQual rubric. The process culminated in a combined meeting of all stakeholders to adopt the EPAs with a goal to implement them for the July 2018 national Senior Residency intake.

Results

A total of ten broad EPAs were developed and defined: 1) managing community acquired infections; 2) managing hospital acquired infections; 3) managing patients living with HIV; 4) managing patients with infections with specific public health considerations; 5) managing infections in solid organ and haematopoietic stem cell transplant patients; 6) managing infections in non-HIV, non-transplant immunocompromised hosts; 7) promoting antimicrobial stewardship; 8) participating in infection prevention and control; 9) managing travel associated and tropical infections; and 10) managing emerging infections and outbreaks of public health importance. Some EPAs were further expanded by clinical setting or complexity. Each final EPA was mapped to the relevant ACGME-I competencies and incorporated the required knowledge, skills, attitudes and experiences to enable summative entrustment. Figure 1 illustrates an example of a detailed EPA.

Conclusion

The EPAs form an organised framework for ID program faculty to more confidently assess their residents' competence and progressively entrust residents for independent practice. The collaborative nature of our EPA development process can be adopted by other specialties in which published EPAs are not available. As these EPAs have yet to be put to practice, the choice of teaching and assessment tools as well as the validity of the supervision scales need to be further redefined following implementation.

Figure 1.

EPA TEMPLATE

Title	Manage people living with HIV (PLHIV) – primary care

Specification and limitations:

A key role for ID specialists is to diagnose and provide primary care for people living with HIV. With fewer complications and increased survival, HIV-infected persons are increasingly developing common health problems that also affect the general population. Some of these conditions may be related to HIV infection itself or its treatment. ID specialists who care for PLHIV, generally do so in multidisciplinary settings, and also manage and monitor relevant age- and sex-specific health problems.

The specific functions which define this EPA include:
1. Demonstrating knowledge of the optimal way to diagnose HIV
2. Performing HIV counseling and testing
3. Performing a comprehensive initial evaluation of PLHIV - inclusive of present and past medical history, physical examination, medication/social/family history, review of systems, and all HIV-related information
4. Performing appropriate baseline investigations
5. Screening and providing prophylaxis for opportunistic infections (OIs)
6. Screening for non-OI co-infections and co-morbidities – especially metabolic comorbidities associated with HIV and antiretroviral therapy
7. Monitoring of PLHIV according to a regular schedule-of-care / cycle-of-care
8. Providing recommended vaccinations
9. Screening for (and treating) sexually transmitted infections (STIs)
10. Performing age and gender appropriate screening for HIV-related and other malignancies
11. Providing pre- and post-exposure prophylaxis services to PLHIV and their partners
12. Providing reproductive counseling to PLHIV and their partners
13. Recommending interventions for the prevention of mother-to-child transmission
14. Providing advance care planning / end-of-life care
15. Building a therapeutic alliance with PLHIV to optimize adherence to care
16. Identifying and rationally addressing barriers to care and adherence – especially psychiatric and substance use problems
17. Collaborating with other healthcare workers in a multidisciplinary care setting
18. Notifying public health authorities as required

Limitations:
Pregnant PLHIV

Subcompetencies relevant for this EPA:

PC1	+		MK1	+		PBL1	+		ICS1	+	
PC2	+		MK2			PBL2			ICS2	+	
PC3			MK3			PBL3			ICS1		
PC4			SBP1			P1	+		..		
PC5	+		SBP2	+		P2	..		..		
PC6			SBP3	+		P3	..		..		

Required Knowledge, Skills:

K:
- Understand the clinical science of HIV including immunology, genetics, physiology, epidemiology, natural history, transmission, treatment, complications and management
- Recognize the clinical presentation of HIV associated opportunistic infections and malignancies
- Demonstrate up-to-date knowledge of HIV care and treatment guidelines

S:
- Perform H & P inclusive of HIV-related symptoms/findings
- Utilize laboratory testing, radiological imaging, resistance testing and interventions necessary for diagnosis/management and interpret results in the appropriate context
- Apply knowledge of antiretroviral therapy to treat naïve and treatment experienced patients, and to monitor for treatment complications
- Select appropriate antimicrobial therapy and therapeutic plans for HIV associated opportunistic infections and malignancies
- Identify, critically evaluate and apply current medical information to treat HIV infected persons
- Communicate with clinicians and other health care professionals to provide multidisciplinary HIV care
- Adhere to ethical principles of patient care with attention to privacy and confidentiality with sensitivity to the cultural, religious, and socioeconomic background and personal values of the patient
- Notify public health authorities as required under the Infectious Diseases Act
- Counsel PLHIV and partners regarding prevention of HIV transmission

A:
- Sensitively and compassionately deliver medical information
- Elicit patient and/or family values, goals and preferences
- Respectfully coordinate care with relevant authorities/other healthcare professionals
- Know limitations of one's abilities and when to ask for help

E:
- At least 6 months of supervised outpatient HIV experience
- All first visits to be seen and reviewed by Consultants
- Indirect supervision for subsequent visits

Sources of information to support summative entrustment decisions:

Tools	Number to be completed satisfactorily	Additional specifications if needed (Who can be raters - staff, nursing, peers? In which context?)
Short practice observations (eg.mini-CEX)	• ≥ 1 mini-CEX • Case based discussion • ≥ 2 satisfactorily conducted clinics, observed by two or more staff, and documentation of case based discussion	Associate Consultants and above Associate Consultants and above HIV clinic supervisor
Entrustment-based discussions	≥ 2	Associate Consultants and above; HIV clinic supervisor
Longitudinal observations (MSF)	≥ 1	Nurses & allied health in multidisciplinary team; outpatient clinic patient
Products to be evaluated	• IDSA in-training exam • Log book review • Case based discussion • End of Rotation Evaluation	Pass Adequate number and case mix

Which supervision:
- Level 2-3 in first 6 months
- Level 4 when entrustment criteria are met; generally by end of SR1

Expiry	If not practiced, after how many months or years will more close supervision be required again?	This EPA does not expire after Level 4 is achieved

TRACHEOSTOMY TRAINING FOR SPEECH THERAPISTS IN AN ACUTE HOSPITAL: A PILOT STUDY USING SIMULATION-BASED LEARNING AND STRUCTURED TUTORIALS

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Background and Aims

Tracheostomy training in the field of Speech Therapy is traditionally and predominantly conducted through bedside training with patient contact. However, training can be inefficient and prolonged as it is often dependent on the availability and complexity of the patients. Given the limited caseload of Speech Therapy patients with tracheostomy in Ng Teng Fong General Hospital, opportunities for trainees to practise clinical skills relating to swallowing and communication management are limited. The training program was revamped to facilitate effective structured-learning and provide more opportunities for hands-on practise. In the literature, simulation-based learning is known to be an effective training tool for Speech Therapists in the area of swallowing and communication tracheostomy management. Thus, a pilot tracheostomy training program involving tutorial and simulation-based sessions with a mannequin was proposed. This study aims to evaluate the effectiveness of integrating tutorial and simulation-based sessions to improve tracheostomy clinical training outcomes in the field of Speech Therapy with limited tracheostomy caseload.

Methods

This is a review of the pilot tracheostomy management training program for Speech Therapists in Ng Teng Fong General Hospital. At least two trainees and two clinical supervisors who have undergone the pilot program will be given questionnaires to evaluate the effectiveness of including tutorial and simulation-based sessions as clinical training tools. Written feedback and verbatim will also be gathered from the participants to understand the program's success and areas for improvement.

Results

Based on preliminary analysis, participants have reported increased knowledge and confidence from the pilot program. They have also indicated their preference for tutorial and simulation-based sessions to be included in the program. The supervisors and trainees agreed that simulation-based sessions should be used to complement but not replace bedside training with patient contact. More analysis regarding the effectiveness of the pilot program will be reported once data collection has concluded.

Conclusion

The findings from this study of pilot tracheostomy management training program allows us to understand the effectiveness in integrating tutorial and simulation-based sessions to improve clinical training outcomes for a department with limited caseload. It also identifies the gaps in the program for further improvement. The results from the preliminary data on the training program's effectiveness seem optimistic. A more holistic training program with the use of simulation based-learning may potentially replace the traditional clinical training model for better training outcomes. The use of tutorial and simulation-based sessions could also be included in other areas of advanced clinical training in the field of Speech Therapy.

THE GRIEVING DOCTOR: HOW UERM RESIDENT PHYSICIANS HANDLE DEATH OF PATIENTS

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Background and Aims

The death of a patient is a harsh reality of life for physicians. The difficulty of telling the bad news to relatives adds to the stress of the bearer of the sad news. In a hospital setting, the residents are the ones most frequently exposed to dying as they are the first line of treatment. They constantly confront death and respond in a variety of ways. The residents' exposure to the death of their patients may be dealt with differently.

This study aims to collect the experiences of the resident physicians of Medicine and Pediatrics on how they deal with patient's death while under their care at the University of the East Ramon Magsaysay Memorial Medical Centre, a private tertiary hospital. We would want to know how death affects different residents depending on the circumstances and the bond they form with the patients. How close is close? Where should a line be drawn on how they deal with the death? This study was done to explore the links between the existing literature and to add to literature on patient-related bereavement studies.

Methods

A qualitative research design following a participatory action research approach was used as thoughts, feelings and experiences of the residents were recorded and analysed. It was guided by the social constructivism worldview where learning is grounded in the actions of everyday situations and that knowledge is acquired situationally and transfers only to similar situations. Purposeful sampling was used for the recruitment of participants. Six residents were included in the study: 3 medicine residents and 3 pediatric residents. Each one has experienced death of patients that they handled and cared for directly prior to the interview. The focused group discussion lasted for one and a half hours. The discussion was videotaped, transcribed, and analysed into clusters of themes which captured the meaning of their thoughts and feelings into written form without distortion or loss of richness of data.

Results

The following were the themes that came out from the study: guilt and perceived incompetence, blaming others, emotional detachment, important role of the senior medical staff, emotional impact, recurrent thoughts about the incident, self realisation, coping mechanisms, relationship with relatives, and the difference between the death of a child and that of an adult.

Most participants felt guilt and incompetence for not being able to save their patients. The more senior residents however were able to handle it more profesionally than the junior residents - who were more emotionally attached to the patient. After losing a patient, the participants rely on the learning they get from the deaths which provide a higher order cognitive explanation on why these deaths happen. They obtain from these deaths a shelter from the pain they experienced and an explanation to a senseless event.

Conclusion

This study shows how residents deal with the stress of a dying patient. It shows the patient-bereavement among the first line providers of medical treatment. They all showed the same degree of loss and grief over the loss of their patients.

SAFE TO PRESCRIBE SOON? PROVIDING A DEDICATED MEDICATION SAFETY WORKSHOP FOR INTERNAL MEDICINE INTERNSHIP STUDENTS IN A TEACHING HOSPITAL IN SINGAPORE

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Background and Aims

Medication errors are one of the common causes of patient safety concerns in the hospital. In our institution, clinical quality improvement projects have shown that the root causes of these errors amongst junior doctors have been related to knowledge gap (drug indication, dosage, formulation), inadequate training in medication prescribing (due to complexities of the electronic health record and prescribing computer program), and incomplete medication reconciliation/history.

It was envisaged that if graduating medical students (internship year) will be given an introductory tutorial in medication safety, this culture of safety can be carried over once they become new doctors, as well as pre-emptively address the above-mentioned root causes.

Methods

A cohort of fifth year (graduating) medical students, from one of the local medical schools, are assigned to rotate to our institution for their eight-week posting in Internal Medicine. On their fourth week, students attend a 90-minute workshop on Medication Safety, conducted by two clinical faculty members from the Dept of General Medicine.

The workshop entails studying patient scenarios, delivered through case-based discussion, in a group of eight to 12 students. Students dissect these cases by determining the root cause of medication error, providing solutions for error prevention, and enable to appreciate different adverse clinical events as a consequence of medication errors.

At the end of each workshop, students voluntarily answer an anonymised electronic feedback form. Students were asked to rate the workshop's usefulness to their clinical posting and to their future work as doctors, as well as areas for improvement.

Results

Six cohort of students rotated to our institution during their Internal Medicine internship posting (n=90), with 85% agreed to provide feedback.

Close to 80% perceived that the Medication Safety Workshop is useful, and applicable for their ward-based practice during the remaining weeks to their posting.

About 90% responded that the workshop will be useful for their future practice as new doctors. Almost all students have gained more insight to the perils of medication safety (adverse events), as the errors have been committed by real clinicians, and it can happen to them in the future.

Conclusion

The Medication Safety Workshop can be a valuable platform in instilling patient safety practice, while still as an undergraduate medical student. This is especially useful when the student has the necessary clinical environment (patient experience through ward-based learning and embedding) during their internship year.

The workshop can be the bridge between patient experience and the reinforcement of correct pharmacologic and prescribing concepts -- bringing this skill until they become doctors.

COMPARISON OF THE NIGHT-FLOAT VERSUS ON-CALL SYSTEM IN RESIDENTS: A REVIEW ON THE SHORT AND LONG TERM IMPACT ON PATIENT CARE AND RESIDENTS.

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Background and Aims

The ideal resident working hours and schedule, which maximises patient safety and resident welfare, optimises the physical and mental health as well as learning opportunities of residents, has not yet been identified. Traditional overnight on-call duties raises concerns regarding greater resident fatigue which may lead to impairment in performance, resulting in increased medical errors, among other issues. As shift length can be altered by the type of on-call system, some residency training programs have developed night-float (NF) systems since the early 1990s. Recent restrictions to resident duty hours have increased the need for alternatives, such as these NF systems, to traditional on-call shifts. NF systems, in which residents work consecutive nights, have been increasingly adopted but are not without its shortcomings. This review serves to address the short and long term impact, of these two different work systems on patients, residents.

Methods

This descriptive review draws on studies catalogued in PubMed, published 1991 to 2018. Studies considered include those dealing with duty hour restrictions which encompassed night float, shortened shifts, and protected time for sleep. Outcomes evaluated were patient care, resident well-being, and resident education.

Results

A total of 127 studies were included in the review. Notably, the NF system may reduce medical errors whilst others have noted no significant impact on patient care or even an increase in fatigue-related omission errors. With regards to the impact of the NF system on residents' sleep and mood, interestingly, the NF system was noted to have mixed effects. This may potentially be attributable to the nature of the NF system (i.e. consecutive nights vs alternate nights NF system). There were also concerns by the residents on the NF system pertaining to learning opportunities, especially for residents in surgical disciplines. Additionally, NF systems have also demonstrated an increased number of patient-care handovers which may contribute to less satisfied patient care.

Conclusion

The NF system is a suitable alternative for training programs attempting to meet duty-hour regulations. Though the NF system does have its advantages as compared to the on-call system, it is not without its shortcomings. Additionally, questions which remain unaddressed for the NF system include the optimal night schedule (consecutive vs alternate nights) and the impact on patient care and resident training. Further long term prospective studies evaluating the above are warranted to address the above questions.

FREE COMMUNICATIONS 7 – PROGRAMME EVALUATION

Medical School Elective Programmes in Singapore: An Analysis of the Factors Associated with Effectiveness
Rebecca Lee, Singapore

Assessing Effect of an Empathy Education Programme Using Psychometric Instruments and Brain FMRI
Kangmoon Kim, South Korea

Quality Improvement: A Blind Spot in our Medical Training?
Agnihotri Biswas, Singapore

The Development of the Emergency Medicine Milestones in Taiwan: A Validation Study
Cheng-Ting Hsiao, Taiwan

Community Diagnosis, Programme Evaluation, and Quality Assurance as an Assessment for Healthcare Management Competency in Undergraduate Medical School Faculty of Medicine Universitas Indonesia (FMUI)
Rodri Tanoto, Indonesia

Research Outreach and Project Matching (ROPM) Programme to Support Undergraduate Research among Medical Students at the National University of Singapore (NUS)
Ren Yi Ping, Singapore

How Does Altering Curriculum 'Flexibility' Impact on Student Experience and Educational Outcomes: A Case Study of a Distance Learning Medical Education Programme
Stella Howden, United Kingdom

Recognition of Full Online Master's Degree Programmes are Rapidly Growing Among Mongolian Healthcare Professionals
Ryenchindorj Erkhembayar, Mongolia

MEDICAL SCHOOL ELECTIVE PROGRAMMES IN SINGAPORE: AN ANALYSIS OF THE FACTORS ASSOCIATED WITH EFFECTIVENESS

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Background and Aims

Medical student electives are an integral part of medical education today, where medical schools allow students to select rotations of their choice. In Singapore, all medical schools include elective programmes in their curriculum. However, limited research has been conducted on factors that impact its effectiveness.

This paper aims to explore factors affecting the achievement of learning outcomes of clinical and research elective programmes. Factors include (1) duration of contact time with patients, (2) seniority of mentor, (3) duration of elective, (4) prior discussion of objectives with mentor. Learning outcomes for clinical electives are (1) development of procedural skills, (2) development of interest, (3) clinical skills development, (4) revision of core curriculum, (5) help in future career choice. for research electives, the learning outcomes explored are (1) paper publication and (2) poster presentation.

Methods

All fourth year medical students are granted 12 weeks for elective programmes at the Yong Loo Lin School of Medicine, National University of Singapore. An anonymous online survey was conducted. Student demographic data and information regarding the aforementioned factors and learning outcomes were collected.

Results

The response rate was 48% (n = 300).

There are 2 types of elective postings. The cohort studied included responses from 455 (94.6%) clinical elective postings and 73 (15.2%) research postings or clinical postings with a research component. of these, some clinical elective postings also had a research component

Amongst clinical postings, most students set out to explore their interest in a particular specialty, followed by revision of core curriculum. One factor which was significantly associated with the development of interest in a specialty was students having at least 25 hours of clinical contact time with patients per week. Additionally, having personal objectives at the start of an elective programme was associated with fulfilment of those objectives, namely revision of core curriculum and exploring an interest in a specialty.

Among those who had intended to explore their interest in a specialty, having an elective with a duration of 4 weeks or less was associated with successfully developing their interest.

Amongst electives with a research component, spending 5-15 hours per week on the research had a statistically significant association with publication of a paper or a poster. The seniority level of the supervisor did not show a statistically significant association with publication of a paper or a poster.

Conclusion

Based on our prospective study, an ideal elective should have: adequate clinical contact time (>25 hours/week); a maximum duration of 4 weeks; an appropriate supervisor, irrespective of the seniority; clear objectives set prior to the posting. Similarly, students who plan for research electives should be prepared to spend about 5-15 hours per week to achieve their intended outcomes.

ASSESSING EFFECT OF AN EMPATHY EDUCATION PROGRAMME USING PSYCHOMETRIC INSTRUMENTS AND BRAIN FMRI

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Background and Aims

Ample evidence has shown that cognitive empathy could be enhanced by education. Most convincing evidences have been obtained through diverse psychometric instruments. The authors intended to evaluate the educational effect of an empathy training program by psychometric inventories, and with functional brain MRI as a more direct measurement tool.

Methods

An eight-hours empathy training program was developed and 17 premedical students volunteered for the study. Pre and post assessment was conducted using brain fMRI and three instruments; Jefferson Scale of Empathy-Student version (JSE-S), Interpersonal Reactivity Index (IRI) and Balanced Emotional Empathy Scale, Korean version (BEES). 20 modified scenarios derived from real cases were developed for fMRI. Scenarios were displayed through goggles during a single fMRI scanning session, and any brain activity change during empathy tasks were measured. Each scenario was presented in three separate pages; resting, reading and responding phase over 44s. The participants were asked to read the question and then choose one emotion that the patient in the scenario might feel, using a handheld pad with four buttons.

Results

The post-test empathy scores measured by all three instrument were increased. However, only the JSE-S score (from 78.8 to 82.7) showed significant change ($p<0.05$). This change was distinctive in perspective taking items. The fMRI results showed significant bold signal change (post-pre, uncorrected, $p<0.001$, $k>10$) on the left precentral, right superior medial frontal, and left hippocampal region during the responding phase.

Conclusion

Cognitive empathy scores, and especially in perspective taking dimension, were significantly improved after the short education program. The fMRI findings showed increased activities at regions associated with empathy-related social cognition (precentral) and mentalising (superior medial frontal). Although preliminary, our study sheds light on the possibility that short education for empathy may enhance cognitive empathy in medical students. Additionally, fMRI might be used to localise and measure empathetic responses. We suggest that cognitive empathy may be enhanced by a short education program in premedical students. Further studies are deemed necessary to confirm the use of fMRI in measuring empathy circuit in the brain and any effect on empathy education.

QUALITY IMPROVEMENT: A BLIND SPOT IN OUR MEDICAL TRAINING?

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Background and Aims

The landscape of medical curriculum is constantly being shaped by the felt needs in the practice of medicine. Importance of evidence-based medicine had seen the early induction of training modules in biostatistics and research methodologies in medical curriculum. We are at present riding the wave of "quality improvement (QI) in medical care" which encompasses the key elements of good clinical outcome, efficient use of time and resources, cost effectiveness and patient experience. Theoretical basis of many QI is adopted from various sectors like manufacturing and business management. The tools and techniques required to improve quality in medical care are not commonly taught to our undergraduates and post graduates. Therefore, medical professionals find themselves ill equipped to address the issue head on. We cite the example of our effort in reducing high bacterial infection rate of 25% after neonatal cardiac surgery. Interlinked care pathways involving multidisciplinary team, multiple sites of care, sequential interventions and complex processes made cause-effect assignments (the way we commonly understand medical pathophysiology) difficult.

Methods

A multidisciplinary team representing key areas of neonatal cardiac surgical program without any prior experience in conduct of a rapid improvement exercise (RIE) was guided by hospital's QI program facilitators to bring down the postsurgical infection rates below 10%. Following lean management tools were used in this RIE.

Value stream mapping (VSM): A visual depiction of a workflow and existing patient care pathway revealed weak links and wasteful processes. It was a prelude to gap analysis. A post RIE VSM depicted the revised improved workflow.

Gap analysis: Facilitated focus group activity involving stakeholders to identify existing process and outcomes and what would be necessary to achieve desired outcome. This was reviewed periodically over the last 2 years in a PDSA (plan-do-study-act) cycle and new gaps were addressed as they emerged.

Fishbone (Ishikawa) diagrams: A visual tool for organising team based critical thinking helped identify important contributing root causes affecting variability in a process output. To make it more robust we used the "5-why?" approach which ensured each problem was examined at 5 sequential layers to expose all biases and faults.

Paradigm breaking: Breaking out of "this is how we have always done it" and replacing old subconscious blocks by innovative solutions using techniques of 'Wishful Thinking' and 'Rich Pictures'

Results

Using the tools mentioned above several weak links and faulty practices could be rectified and innovative workflows could be established. Following induction of over 30 improved practices over the last 2 years bacterial infection rates decreased below 7%. The RIE team had a firsthand experience in learning about and adopting new tools of lean healthcare management.

Conclusion

Quality improvement in patient care as a science and art form has gained great momentum. Our undergraduate and post graduate students are likely to benefit from early introduction of inter-professional training and longitudinal tracks or elective modules targeted to teach the process and tools involved in QI projects. In parallel we need to develop QI champions and educators who can equip the future generation of medical professionals.

THE DEVELOPMENT OF THE EMERGENCY MEDICINE MILESTONES IN TAIWAN: A VALIDATION STUDY

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Background and Aims

Competency-Based Medical Education (CBME) is the world trend of medical education. Development of Milestone Project is one important way to implement CBME, but require a lot of resources and manpower.

Taiwan Society of Emergency Medicine (TSEM) undertook a Competency-Based Medical Education (CBME) milestone project based on Accreditation Council for Graduate Medical Education (ACGME) Emergency Medicine (EM) Milestone Project through series of consensus methods. Finally, 23 sub-competencies and 231 milestones were constructed as Taiwan EM Milestones. To assure that the milestones reflected EM resident progress throughout training, the Task Force of EM Model and Milestone (TEMM) sought to validate every individual milestone with a consensus survey method toward EM clinical teachers. This study aimed to assure that the levels of milestones reflecting EM resident's progress throughout the training and find a model for Asian countries to adjust ACGME's milestone project to meet local needs.

Methods

A paper-based survey was sent to all clinical teachers of EM residency programs in EM faculty development curriculum in 2017. Each sub-competency had a separate survey page and originally desined markers were eliminated from the level categories. Respondents were asked to reassign each milestone to a specific level of the five levels. Markers where 50% or more of respondents chose the same level should be accepted as it is. Markers where no level was selected by at least 50% of respondents should be reviewed by TEMM. TSEM may assign the level at which 75% of respondents chose that level, or below, represented by the cumulative percent.

Results

TSEM has 39 training programs and total of 20 sessions of faculty development curriculums were held at different training site. Of the 246 potential respondents, 211 completed the survey (85.8%). Based on the survey results, the TEMM adjusted the milestones in the following ways: 6 milestones were reassigned to lower level, and 8 were higher level comparing to the original design. There were 7 milestones in the sub-competency of patient care, 4 in system-based practice, 2 in practice-based learning and improvement, 1 in interpersonal and communication skills. These reassigned milestones in patient care are all skill-related. The most common level of reassignment was level 2 to 3 (6/14).

Conclusion

The results of this study showed most milestones with performance's level changed by this localisation process were in the competencies of patience care and system-based practice. Further discussion will be provided in the conference. The content and performance level of milestone project may be affected by different cultural backgrounds and health care systems. The consensus survey method could serve as a development model for Asian countries to adjust ACGME's Milestone Project to meet local needs.

Milestones could serve as a framework of CBME for workplace-based assessment and teaching. Clinical teachers who conduct the assessment and teaching play a crucial role in implementation of CBME and better understand local expectation and the frontline workplace. The milestones are expected to be validated based on the perspectives of clinical teachers to better align assignment's difficulty within appropriate expected performance level and improve the feasibility.

COMMUNITY DIAGNOSIS, PROGRAMME EVALUATION, AND QUALITY ASSURANCE AS AN ASSESSMENT FOR HEALTHCARE MANAGEMENT COMPETENCY IN UNDERGRADUATE MEDICAL SCHOOL FACULTY OF MEDICINE UNIVERSITAS INDONESIA (FMUI)

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Background and Aims

One of the competencies for FMUI graduates is healthcare management. Community Assessment, Program Evaluation, and Quality Assurance are activities about how to manage health services in primary care with problem solving cycle approach. The components of community diagnosis, program evaluation, and quality assurance are expected to be the domain for healthcare management competency assessment.

Methods

Interactive lectures, case simulation discussions, and oral examinations to 164 FMUI final semester's students was conducted in an orientation phase prior to the longitudinal integrated field clerkship in hospital and primary health care. In oral examinations, students were asked questions about what steps will be taken to determine cases in the community, program evaluation steps, and quality assurance, as well as the example (knows how). Factor analysis was carried out to determine whether community diagnosis, program evaluation, and quality assurance can be considered as tools for health care management skills. Reliability was done by calculating alpha cronbach.

Results

The correlations between community diagnosis, program evaluation, and quality assurance ranged from 0.876 to 0.899. Kaiser Meyer Olkin of Sampling was 0.778 indicated sufficient number of samples. Bartlett Test <0.001 indicated correlations among components as expected. From the result of eigen value and scree plot, component of community diagnosis, program evaluation and quality assurance can be formed together in one group with loading factor range from 0.960 to 0.968 with 92,697 total score variation; meaning that the components of community diagnosis, program evaluation, and quality assurance can contribute for 92.697% of the variation in health care management competency assessment. Alpha cronbach for these three components to assess health care management competence was 0.961.

Conclusion

The community diagnosis, program evaluation, and quality assurance can be used as an indicator for healthcare management competency in the form of orientation, simulated discussion about problem solving cycle for health program or community problem, with oral examination prior to the field practice with field tutor tutor's supervision. Healthcare management competency can be included as part of longitudinal integrated clerkship.

RESEARCH OUTREACH AND PROJECT MATCHING (ROPM) PROGRAMME TO SUPPORT UNDERGRADUATE RESEARCH AMONG MEDICAL STUDENTS AT THE NATIONAL UNIVERSITY OF SINGAPORE (NUS)

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Background and Aims

Into its third year, the Research Outreach and Project Matching (ROPM) programme was established in 2016 as a platform for undergraduate Medical students of the National University of Singapore to seek research opportunities. Jointly organised by the Wong Hock Boon Society and NUS Medical Society Research Directorate, it has served to encourage research outreach among undergraduate students. In this study, we explore the preferences of students in taking up research, with regards to departments, field of research, and type of skills required. This programme aims to observe and respond to trends in student preferences, hence aiding institutions in enhancing the diversity, quality and quantity of student involvement in undergraduate research.

Methods

Every month, the ROPM invites several healthcare institutions in Singapore, including tertiary hospitals and nursing homes, to offer projects catered at the undergraduate level to NUS Medicine students. These projects are released to 1500 undergraduates, and applications collated by the ROPM team. The study reviews project statistics across 28 months from February 2016 to May 2018 using Excel. Every 7 months, we observe various factors such as application rates, projects offer rate, and type of research applied for. Each period of 7 months is named segments 1, 2, 3 and 4 respectively. The projects reviewed are offered by NUH, SGH, CGH, NTFGH and KTPH.

Results

Across the 28 months of ROPM, the greatest number of applicants came from Year 3 students, increasing from 37.4% to 38.1% of applicants, while Year 1 applicants increased from 14.1% to 33.3%. The application rate for projects was 54.2%, 60.0%, 100.0%, and 61.9%, in the second, third and fourth segments respectively. A total of 199 projects were offered to students, with 116 applied for. Throughout the 4 segments of the ROPM programme, Neurology, Respiratory Medicine, Paediatrics, Epidemiology, Surgery, and Anaesthesia have consistently been strong preferences, with more than half of their projects applied for. Other departments met with strong interest include Microbiology and Immunology, Renal Medicine, Pharmacology and Psychiatry. In additional, an increase in projects offered from Neurology was noted, increasing to 1.3% of all total projects, with a 100% application rate. NUH and SGH offered the most projects at 54.7% and 30.2% of all projects. The number of projects offered by NUH has also increased to 57.2% over the 28 months. The application rates were 40.0%, and 37.5% for SGH and NTFGH respectively. In the second segment, projects offered by SGH each cycle has increased by 73.0% and NUH by 50.0%. Medical Research remains the most preferred project type. Projects on clinical innovation and quality increased from 2.8 to 30.8% of all projects. A greater diversity of research responsibilities was seen, with increased emphasis on manuscript writing, presentations and data analysis.

Conclusion

Both the diversity of projects and degree of student involvement have increased throughout the four segments of the programme. It is significant to note that with this new direction of student interest, further improvement towards these factors should be considered with new methods and projects to promote student interest.

HOW DOES ALTERING CURRICULUM 'FLEXIBILITY' IMPACT ON STUDENT EXPERIENCE AND EDUCATIONAL OUTCOMES: A CASE STUDY OF A DISTANCE LEARNING MEDICAL EDUCATION PROGRAMME

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Background and Aims

The professionalisation of medical education has seen an increasing desire for participation in postgraduate medical education programmes globally. Significant numbers of health professionals seek part-time distance programmes to enable study alongside professional and personal commitments.

Multiple drivers influence the design of these curricula e.g. employer and professional body needs, institutional priorities, and learner needs and expectations. A dominant discourse in Higher Education and health professional education is the importance of designing curricula to support flexible learning. Flexible learning can be understood as dimensions of flexibility (in a programme) which support learner-led educational processes and choices. Dimensions of 'flexibility' include: time (e.g. starting and assessment submission dates, pace of studying); content (e.g. topics, learning materials, exit points); instructional approaches (e.g. social organisation of learning, monitoring); and delivery (e.g. tutor:student contact time, modalities).

It has been assumed that maximising learner choice is positive for learners, for example, open versus set submission dates for assignments. Although open seems to fit with adult learning literature, it relies on student capacity to prioritise soft study deadlines over firm work ones.

During 2015/16 the Centre for Medical Education (CME), University of Dundee undertook a major review of their long-established distance learning Master of Medical Education (MMEd) programme. Following analysis of key learner outcomes and experience data, a series of curriculum design changes were enacted. As such, the revised MMEd programme afforded new learner experiences in relation to flexibility of time, content, instructional approach, delivery and logistics. This afforded a unique opportunity to evaluate learner experiences and outcomes for three demographics: learners on the previous programme, those on the revised programme, and those who transitioned during their studies to the revised programme. This study aims to evaluate experiences and academic outcomes for online distance health professional learners afforded different levels of flexibility in their learning.

Methods

A mixed methods design was used. Extant quantitative data was analysed on a range of academic outcomes. Semi-structured interviews of a purposive sample of students were thematically analysed to generate findings related to the learner experience.

Results

Reducing the flexibility dimension of 'time' (e.g. introducing assessment submission deadlines) had a significant positive impact upon progression and completion. Qualitative data helped to illuminate the positive (e.g. an enhanced sense of being part of an online community of learners), and the unintended impact of the curriculum changes.

Conclusion

Given the backdrop of busy healthcare and education workplaces as well as other pressures, it might be expected that maximising flexible learning for part-time students studying an MMEd would be positive. However, gaining insight from a large programme that instituted selective changes in dimensions of flexibility, we have shown this to be over simplistic. We also proffer explanations of dimensions which are particularly valuable for learning and those which may present as more challenging for learners and those supporting programme delivery. These findings are expected to be of interest and value to anyone involved with the planning, designing and delivery of online medical education programmes.

RECOGNITION OF FULL ONLINE MASTER'S DEGREE PROGRAMMES ARE RAPIDLY GROWING AMONG MONGOLIAN HEALTHCARE PROFESSIONALS

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Background and Aims

Lifelong learning and carrier development are essential for healthcare professionals to maintain competence in practice; meanwhile delivering efficient educational service remain challenging problem in the world, especially in dispersedly populated vast country of Mongolia. E-learning became an integral part of modern medical education in various levels and technologies, globally. Mongolian National University of Medical Sciences has launched full-online, taught programs offering master's degree in medical science and public health fields on Moodle platform since 2015, and has grown rapidly. Therefore we aimed to assess learner satisfaction, exit evaluation and gaps in educational service as part of the program evaluation.

Methods

We surveyed both graduates and currently enrolled students on Google online platform through cross-sectional and retrospective designs, respectively between March and May, 2018. The survey consisted of Likert scale items, short answer questions and open questions. Participation invitation were sent to e-mails and on built-in messenger. Graduates survey was organised in 3 sections for 27 items, while 4 sections of 35 items for students. T-test, ANOVA, chi-square test and other methods were used in the statistical analysis.

Results

Participants mean age was 32.22 ± 0.42 and 88.89% (n=192) of total 216 participants were females. Fifty-five per cent (n=118) of the participants were from Ulaanbaatar city while remaining (n=98) were from vast rural areas. Response rates were 19.29% (n=22) for graduates and 33.10% (n=194) for students, and 10 repeated responses were excluded from analysis. Overall satisfaction and learner's evaluation was significantly higher among the graduates 2.59 ± 0.13 than current students 2.29 ± 0.05 (p=0.043), as well for the training efficiency item, 2.73 ± 0.12 vs 2.26 ± 0.04 (p<0.001), where 3 point is the highest. Furthermore, graduates overall evaluation was associated with excellent supervisor experiences, 2.72 ± 0.11 comparing to poor supervisor experiences, 2.00 ± 0.41 (p=0.023). No difference was observed on learner's evaluation when compared by sex and study location (p>0.05). Also scarcity of live webinar modules and feedback (n=21) were the most reported gap during the whole program. Overall evaluation and learner's satisfaction did not differ between 8 curriculums (ANOVA, p>0.05). However, the participants' perception regarding appropriateness of MCQs usage on student evaluation were significantly different between these 8 curricula (ANOVA, p=0.012).

Conclusion

Our findings suggest these full-online, degree programs are mostly rated favorably by healthcare professionals regardless of their curriculum and study location, whether metropolitan or rural Mongolia. The importance of strong feedback in e-learning can be seen from positive overall evaluations from participants who experienced excellent supervisions. Insufficient learner engagement in our case of e-learning has been identified as the biggest gap and many authors support the blended learning modules as the most efficient, therefore combination with classroom contents should be considered in the future. This study however did not completely cover real life issues of adult learning principles in e-learning. In further studies, remaining aspects of program evaluation in e-learning media should be addressed.

FREE COMMUNICATIONS 8 – LEADERSHIP

Rolling Out the Carpet : Preparing a Health-Literate Ready Workforce
Predeebha Kannan, Singapore

A System Approach to Embed Best Practice Motivational Interviewing in Health Care: A Wicked Problem?
David Lim, Australia

Medical Leader Identity: A New Model
Judy Mckimm, United Kingdom

The Contribution of Short-Term Clinical Experience in Countries of the Asia-Pacific Region to the Leadership Competency of Health Professionals
Mikio Hayashi, Japan

Measuring Patient Satisfaction Outcomes of a Longitudinal Student-Initiated Homecare Programme by Healthcare Students on Frequently Re-admitted Elderly Patients
Prachi Simran Vig, Singapore

Knowledge Creation in Health: Reflections of Academic Health Practitioners
Lauren Coetzee, South Africa

Study in the Influence of Hierarchical and Superiority Attitudes of Medical Teachers on the Communication Between Students and Teachers in Sri Lankan Cultural Context
Yasith Rodrigo, Sri Lanka

ROLLING OUT THE CARPET : PREPARING A HEALTH-LITERATE READY WORKFORCE

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Background and Aims

Patients still experience difficulty in understanding, processing healthcare information and navigating through healthcare systems in Singapore. A strategic initiative was undertaken in this primary care setting , to improve the awareness and equip healthcare professionals with health literacy knowledge and skills, to better engage their patients.

Methods

A simplified design thinking model of ADDIE (analyse, design, develop, implement and evaluate) was adopted to analyse the gaps in patient engagement within the organisation . Various data sources including previous data (past surveys, patient feedback) as well as new data (Gemba walks -Quality Improvement approach, informal interviews, observations, staff surveys) were triangulated to ascertain the gaps and needs. The learning points were summarised and incorporated as an acronym, CARPET for ease of recall. CARPET in healthcare communication encompassed , C (Chunk and Check, Cultural Sensitivity); A (Avoid Jargon & Affirm Patient); R (Respond to Emotion & Respect the Patient); P (Plain language and Pace the Information) ; E (Encourage Questions and Explain in Graphics) ; T (Teachback). The implementation strategy was a teaser followed by short awareness interactional briefings at healthcare professionals' meeting platforms . This was followed by embedding the tenets of teaching about the CARPET , into various communication and other workplace based healthcare professionals' training programmes, to reinforce learning. The CARPET concepts were also incorporated into orientation programmes for new healthcare professionals . This set the project , metaphorically known as , "Rolling out the CARPET", into motion. (154). The strategy equipped healthcare professionals to be mindful of how they relayed spoken and written instructions to enable better patient understanding.

Results

The instructional method included a video of a typical patient's journey through a primary care clinic to underpin the challenges faced by a patient with low health literacy and psycho-social baggage. This enabled the attendees to better appreciate the gaps as well as healthcare communication strategies embedded in the CARPET . A pre- and post- session feedback which incorporated elements of Millers' learning pyramid with the motivational interview ruler approach (Miller & Rollnick, 2002)was applied. Participants self-reported their scores on a scale of 1 to 10, on both their awareness and confidence, in handling patients with low health literacy in primary care . Practicality and relevance were some of the fundamental factors considered in this simple evaluation design . Post-briefing results showed a marked increase among various groups of healthcare professionals on their self-reported awareness and confidence, to manage such patients.

Conclusion

Patient engagement is a critical component of patients' understanding and adherence to treatment or wellness strategies , in disease prevention and health promotion. This mandates that Healthcare professionals' listen and understand patients' psychosocial and health literacy needs. The educational design of this explicit 'just-in-time' contextualised, interactive , adult learning approach towards building a health literate workforce appeared to improve both awareness and confidence of healthcare professionals towards critical elements of such healthcare communication . It underpins the explicit need to bridge theory to practice at the workplace.

A SYSTEM APPROACH TO EMBED BEST PRACTICE MOTIVATIONAL INTERVIEWING IN HEALTH CARE: A WICKED PROBLEM?

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Background and Aims

Motivational interviewing (MI) is internationally recognised as an effective intervention to facilitate health related behaviour change; although, how it is best implemented and supported in everyday clinical practice is not so clear. The aim of this study is to find out: 1) how MI as an intervention is implemented (or can be implemented) in clinical practice and learning environments; 2) how MI skills are best developed and maintained in a high workload practice environment that includes students; and 3) how to ensure the sustainability of MI in clinical practice and learning environments.

Methods

The first part of the study has ethics approval and used survey data collected at a conference workshop attended by 30 health professionals. The five pre-workshop questions explored whether they use MI as a clinical intervention, their confidence in using it, how MI has been implemented at the departmental level, and whether processes have been developed to support high fidelity. The four post-workshop questions and four general questions identified barriers to using MI, enablers and use of various resources that are available, and how MI can be maintained in a busy clinical environment. The second part of the study is a scoping review to identify reported barriers and enablers to implementation and maintenance of MI in health care settings. Ten studies were included and a meta-ethnography synthesis of the qualitative findings was conducted.

The third part of the study integrated the outcomes of parts one and two, and synthesised them using complexity theory and a conceptual framework(s) to assist clinical educators in embedding MI in their practice and learning environment, and enhance practitioners' and students' competence and confidence in using MI as part of routine care and interprofessional practice, to optimise health outcomes.

Results

MI takes place at the clinical microsystem level (departmental), whereas training is more likely to take place at the meso-level (health disciplines across the university and health organisation). Meso and macro-level related factors to be considered include professional standards and associated training requirements, local and regional health needs, acute versus chronic condition management, and associated funding.

Conclusion

Successfully embedding MI in client-centred health care requires awareness of the possible barriers, and facilitating agreed guidelines and processes that not only support education, skills development and maintenance of MI, but also support interprofessional collaborative practice at the departmental or micro-level.

MEDICAL LEADER IDENTITY: A NEW MODEL

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Background and Aims

'Becoming' a doctor involves the acquisition of medical knowledge and skills and the development of a meaningful professional identity. Professional identity formation (PIF) is complex, takes time, is multi-factoral and, for doctors, is closely linked to societal expectations, personal and social identity. Increasingly, doctors are required to engage in healthcare leadership/management which involves significant identity shift.

Understanding how doctors see themselves (professional identity) and how they see themselves within their organisations (social identity), is crucial to explore medical engagement in leadership and management activities of all types. In this article, the concept of identity and identity formation is reviewed to gain a deeper understanding of how a medical professional's identity is developed during undergraduate and postgraduate education and training. We then go on to explore the nature of medical leadership identity (MLI) and how MLIF can be nurtured alongside medical professional identity formation.

This presentation explores the concepts of 'professional identity', 'professionalism' and PIF in relation to doctors and to doctors as leader-managers. Two new concepts and models are introduced: Medical Leader Identity (MLI) and Medical Leader Identity Formation (MLIF).

Methods

A theoretical review of the literature on identity, professionalism, professional identity and PIF was carried out to develop the concepts of MLI and MLIF and identify factors that might enhance or inhibit development.

Results

Medical professional identity begins to form before medical school and can be influenced and shaped, threatened and challenged, as doctors progress through their career and take on different roles. Individuals need space to reflect on experiences that help identity development and develop awareness that 'identities' are multiple, nested, interconnected and change over time. using a model can help doctors make transitions more easily and incorporate new facets of identity into existing social, personal and professional identities and avoid role conflict and stereotype threat.

Conclusion

We offer a new perspective on medical professional identity in the light of calls on doctors to 'become and be healthcare leaders'. Concepts from the wider literature on professional identity and professionalism have been used to develop a new model to explain how doctors might develop their MLI alongside the formation and maintenance of their medical professional identity. The new concepts models and concepts of Medical Leadership Identity and Medical Leadership Identity Formation are introduced.

THE CONTRIBUTION OF SHORT-TERM CLINICAL EXPERIENCE IN COUNTRIES OF THE ASIA-PACIFIC REGION TO THE LEADERSHIP COMPETENCY OF HEALTH PROFESSIONALS

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Background and Aims

Globalisation has increased the opportunities for healthcare professionals working in developed countries to provide clinical and educational support in developing countries. However, it is unclear how these experiences are useful to or contribute to the leadership competency of health care providers'. This study aimed to explore the contribution of short-term global clinical health experience in various countries of the Asia-Pacific region to the leadership competency of a multinational team of doctors, dentists, and nurses. The objective was to analyse the process of developing individual leadership competency. The study findings will help in guiding mentors who conduct global medical health training for young physicians.

Methods

Japanese health professionals who participated in an international medical cooperation project in the Asia-Pacific region (Palau and Vietnam) as part of a multinational medical team consented to participate in this study. Qualitative descriptive data were collected in face-to-face, semi-structured interviews. An interview guide was used to clarify how the participants viewed their experiences and how those experiences influenced their clinical practice. The data were analysed using the Steps for Coding and Theorisation method, and a theoretical evaluation was performed using a social constructivism paradigm. Data interpretation and analyses were carried out by multiple authors. The study was approved by the Institutional Review Board of the University of Tokyo.

Results

We recruited 20 research participants, comprising five nurses, five dentists, and ten doctors with a mean duration of clinical experience of 15.3 (range, 4-34) years. The interviews identified 58 constituent elements related to the concept of leadership. Among them, 25 themes that affected the actual medical care were recognised. The theoretical framework comprised seven primary factors: leadership concepts, setting direction and leading change, working with and developing others, team building, communication, business skills, and self-management. The development of individual leadership competency associated with leading a medical care team was related to "understanding the environment of other cultures" and "team development." The concepts of "developing and empowering others" and "lifelong learning" were associated with the actual delivery of medical care. Experience in "conflict management" during actual global health clinical practice led the participants to reflect on their communication and business skills. Some differences between professions were evident: nurses particularly reflected their empathic attitudes toward patient after global healthcare-giving experience; dentists tended to reflect their business skills; physicians tended to reflect their leadership concepts and team building in their own medical institutions.

Conclusion

This study clarified the elements of leadership competency gained through short-term global health clinical experience and the process of individual leadership competency development. The competencies gained by nurses, dentists and doctors were different. The findings provide useful information for those considering medical practice in developing or other countries and for those providing global medical training to students and residents.

MEASURING PATIENT SATISFACTION OUTCOMES OF A LONGITUDINAL STUDENT-INITIATED HOMECARE PROGRAM BY HEALTHCARE STUDENTS ON FREQUENTLY RE-ADMITTED ELDERLY PATIENTS

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Background and Aims

Numerous studies have shown that preventative home visitation programmes reduce readmission and mortality amongst patients. Our study aims to measure the impact of Tri-Generational HomeCare (TriGen) on elderly patient outcomes. Tri-Generational HomeCare (TriGen) is a student-led, professionals-supported, service-learning programme complementing Khoo Teck Puat Hospital's Aging-in-Place programme, a community-based healthcare programme which targets frequently admitted patients, the majority of whom are above 65 years of age. In TriGen, interdisciplinary student teams consisting university healthcare students and secondary school students visit patients over a 6-month cycle, with the aim of encouraging medication compliance and improving patient outcomes.

Methods

54 out of 97 (55.7%) patients were recruited over four 6-month cycles starting from Jan 2016. A post-cycle interview-led telephone-based patient feedback survey (PFS) was conducted at the end of each cycle consisting of 19 likert scale questions.

19 out of 66 (28.8%) patients from the latter three 6-month cycles were recruited for a pre and post interview-facilitated Programme Evaluation Questionnaire (PEQ). 13 completed the post-PEQ. 3 qualities were looked at in the PEQ:, medication compliance which was screened using the Morisky Medication Adherence Scale-4 (MMAS-4), quality of life (QOL) as measured by the EQ-5D-5L, and self-efficacy as measured by the Self-Efficacy for Managing Chronic Disease 6-item Scale. A Wilcoxon signed rank test was conducted to compare pre- and post- score differences. Statistical analysis was performed using SPSS version 24.0.

Results

The PFS showed that 94.4% of the patients felt happier after home visits and 83.3% felt less lonely after the visit. A study done on physician-led home visits found that a significant proportion felt there was a lack of connection to the physician. The nature of TriGen being a student-based home visit programme may have served as a better platform for connection and befriending of the patients as compared to physicians. However, only 55.6% of patients felt the project motivated them to continue to improve their health and 46.3% reported a change in their lifestyle. TriGen appeared to be less effective in achieving a measurable self-reported change in health or lifestyle of the patients.

There was an overall trend of improvement in the pre- and post- cycle PEQ. The MMAS showed a drop in median from 3 to 2 (Z = -0.45, p = 0.655), suggesting greater medication compliance; the EQ-5D-5L showed a decrease in median from 2 to 1 (Z = -1.58, p = 0.115), indicating improvement in quality of life; the self efficacy questionnaire showed an increase in mean from 6.74 to 7.23 (Z = 1.24, p = 0.213), showing an increase in self-efficacy. Due to the small sample size, the majority of the comparative analysis was statistically inconclusive.

Conclusion

TriGen has been largely successful in improving self-reported patient outcomes in home visit engagement and connection and, to a lesser extent, in effecting an impact on their health behaviour and lifestyle choices of the patients. Further studies exploring the impact of these student-led home visits are warranted to better understand the unique benefits of such programmes.

KNOWLEDGE CREATION IN HEALTH: REFLECTIONS OF ACADEMIC HEALTH PRACTITIONERS

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Background and Aims

This study investigated the self-reported perceptions of academic staff in a Faculty of Health Sciences (FoHS) in South Africa to be confident, motivated and capable creators of knowledge through research. This is in alignment with governmental priorities included in the National Development Plan (NDP) highlighting that "...universities are the dominant producers of new knowledge (NDP 2011:322). The NDP further states that "South Africa needs knowledge that equips people for a changing society and economy" and directly links it to research in Health Sciences: "Health services are costly, and it is essential to base planning, resource allocation and clinical practice on empirical evidence. The health workforce, particularly leadership, needs to become familiar with using evidence in all aspects of practice (NDP 2011:349)".

Methods

For data collection, via a questionnaire survey and Nominal Group Discussions (NGDs), the population comprised of FoHS academic staff, from the sub-populations of the School for Allied Heatlh Professions (SAHP), School of Medicine (SoM), School of Nursing (SoN) and Academic Support (AS) staff. Participants' were probed on their perceptions of personal attributes and abilities relating to research skills and knowledge; the identified roles of an academic as well as motivators to perform research.

Descriptive and statistical analyses were undertaken for the forced choice questions in the questionnaire survey and thematic analysis performed, with a co-coder, on the open-ended questions. NGD statements underwent thematic and content analysis.

Results

Participants from all sub-populations reported as being skilful and knowledgeable regarding generating research ideas, finding relevant literature and writing a research proposal. Areas of "insufficient" knowledge or skills in at least two of the sub-populations included application for research funding and the use of qualitative research designs. Recommendations include the introduction of an online training platform and electronic library relating to grant writing and funding access and/or applications as well as to enhance diversity in research designs to create internal capacity development opportunities.

The identified roles, as identified by at least three sub-populations, included being a mentor to students and/or staff and to be a healthcare professional. To reinforce change on an individual level, the re-educative communication of the importance of research and research related policies is emphasised as a shared/collective vision that can enable staff to strive for the set goals.

Primary motivators indicated by at least two sub-population included the development of individual skills sets, changing a situation and the development of the profession. To support the strengthening of the research culture in the FoHS, recommendations, based on motivators, include the allocation of dedicated research time to academic staff members, the review of policies on promotion and job descriptions and to share a common research vision of transparency and inclusivity.

Conclusion

The role of the healthcare academic is multifaceted and research may provide a platform for the nexus of teaching, learning, community engagement and meeting governmental priorities, through evidence-based and best practice approaches. In order for this to be possible, institutions should create a vibrant research culture to support researchers to flourish.

STUDY IN THE INFLUENCE OF HIERARCHICAL AND SUPERIORITY ATTITUDES OF MEDICAL TEACHERS ON THE COMMUNICATION BETWEEN STUDENTS AND TEACHERS IN SRI LANKAN CULTURAL CONTEXT

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Background and Aims

Effective teacher-student communication is a key determinant of teaching-learning in the medical undergraduate context. However, such communication may be influenced by various factors. This study aimed to explore how the attitudes and professional superiority of teachers have influenced communication with their students in Sri Lankan cultural context.

Methods

A qualitative study was conducted using focus-group-discussions (FGD) and individual interviews at Faculty of Medicine, University of Kelaniya. A representative sample of 67 students from five academic batches participated in focus-groups. Twelve academic staff members participated in individual interviews. Both FGDs and interviews were transcribed verbatim and thematically analysed.

Results

15 key themes identified varied from conflicting expectations regarding teacher-student communication between teachers and students, Impact of Superiority/Intimidation by lecturers, Influence of the attitudes and psychosocial factors which appeared to have played a major role from the part of teachers in creating an inferiority complex among their students. "Sometimes we encounter misunderstandings because our teachers are perfect and we are nowhere near them when compared with their level"-(student). In addition, various misbeliefs among students regarding their teachers such as the possibility to influence a student's examination result by a teacher which were triggered by the influence of local culture and the influence of senior students among their juniors were apparent with regard to further widening the communication gap. "From the beginning itself our seniors made us believe that if we made a bad impression while interacting with our teachers they would fail us at exams. So we tend to keep ourselves away from them as much as possible"-(student) The situation was further analysed based on views given by teachers as well as students by comparing the teacher-student communication in medical courses with that of other degree courses and their recommendations to overcome the teacher-student communication gap. "As a teacher I want to give the message to my colleagues we should be more time commitment and offer more opportunities to students to approach us directly specially with their problems"-(teacher)

Conclusion

Although the basic need for more open communication was apparent among students and teachers while emphasising the need to maintain the professional conduct and due respect towards their teachers by the students, it appeared to have been affected by mis-understandings, hierarchical nature of the medical profession and cultural norms. Thereby, maintaining a more mutual and understanding relationship between teachers and their students in the medical education setup was apparently important to improve communication between medical students and their teachers for a better educational outcome.

FREE COMMUNICATIONS 9 – TEACHING AND LEARNING II

The Effectiveness of Online Teaching vs Group-Based Personal Teaching in Songkha Hospital for Three-Year Clinical Medical Students
Rujira Leetanapon, Thailand

Learning About Guidelines for Community Health Screening: A Peer Learning Workshop
Caitlin O'hara, Singapore

Training Enhancement and Accreditation for Community and Home Eye Screening (TEACHES) for Opticians
Yip Chee Chew, Singapore

Integrating Pass into the Smart Curriculum- Student and Faculty Benefits from a Two-Year Study
Isabel Hwang, Hong Kong S.A.R.

Active Learning in a Culture Where "Silence is Golden"
Haruko Akatsu, Japan

Colaborative, Case-Based Learning in Histopathology
James Fishback, USA

Surgical Competence Training Using Project-Based Learning Method with the Most Recent Advanced Educational Techniques
Ngo Thi Dong, Vietnam

PlayMed - Bridging the Gap Between Student and Doctor with Serious Games
Michael Coffey, Australia

THE EFFECTIVENESS OF ONLINE TEACHING VS GROUP-BASED PERSONAL TEACHING IN SONGKHA HOSPITAL FOR THREE-YEAR CLINICAL MEDICAL STUDENTS

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Background and Aims

Social media is an inseparable part of people's lifestyle. In Thailand, people use online social media, Facebook as an example, for more than 7 hours per day, which is about 43% of their active time. To date, most clinical teachings are still based heavily on lectures and printed texts, without much leverage on social media tools. Thus, by utilising an online platform for medical teaching in Songkhla Hospital, this study aims to evaluate its effectiveness based on improvements in student learning results and satisfaction levels, as well as time and financial cost savings.

Methods

Seventy-two medical students, from first to third clinical year, were enrolled in this study. They were randomly stratified into two groups. The first group was taught via Facebook video post twice a week. Another was taught in a group-based system also twice a week, according to their clinical years. A pre-test exam and one month post-test exam would be given to both groups. At the end of the study, a satisfaction survey was taken by the students to evaluate which teaching method is preferred. All knowledge would be shared for both groups which include 40% of the answers of the taken examination and also the students were allowed to ask any questions pertaining to the study.

Results

Students in each clinical year attended more than 80% in each session for group-based teaching. The post-test score are 14.8 from pre-test 12.1 (with an increase by 22.3%), 22.4 from 16.1 (39.1%), 26.2 from 22.9 (14.4%) for social media learning and 15.8 from 11.3 (39.8%), 20.5 from 17.0 (20.6.2%), 25.8 from 23.8 (8.4%) for group-based learning with supervisor. The mean difference of pre-post test scores are 2.75 (p-value <0.001, 95%CI 1.70 to 3.80) in social media learning group and 4.42 (p-value <0.001, 95%CI 3.19 to 5.64) in group-based teacher teaching group for the first-year clinical students, 6.33 (p-value <0.001, 95%CI 4.82 to 7.85) and 3.55 (p-value <0.001, 95%CI 1.12 to 5.97) for the second year, and 3.33 (p-value <0.001, 95%CI 1.89 to 4.78) and 2.00 (p-value <0.001, 95%CI 1.01 to 2.99) for the final year. The mean different scores for all students are 4.14 (p-value <0.001, 95%CI 3.26 to 5.02) and 3.28 (p-value <0.001, 95%CI 2.39 to 4.17) in two groups respectively. According to the satisfaction survey, the final year clinical students preferred online teaching, unlike the others.

Conclusion

Teaching via social media could be more efficient method for the second and third-year clinical medical students in Thailand. In addition, this might be useful especially for the final year students who spend most of their time working in wards.

LEARNING ABOUT GUIDELINES FOR COMMUNITY HEALTH SCREENING: A PEER LEARNING WORKSHOP

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Background and Aims

Evidence-based screening guidelines published by the Ministry of Health (Singapore) serve as evidence-based recommendations for clinical practice. These Clinical Practice Guides (CPGs) are useful for pre-clinical students involved in community health screening projects. A half-day workshop was conducted by a clinical year students to train their juniors in the guidelines in preparation for their upcoming involvement in community health screening projects. This study aims to evaluate the effectiveness of peer-teaching workshops in the learning of screening guidelines by pre-clinical year students.

Methods

All participants of this workshop were invited to participate in a pre- and post-workshop quiz to assess their knowledge and application of the screening guidelines. The 12 multiple choice quiz-questions were based on workshop content, and reviewed by a content expert. Pre- and post-workshop scores were collected, and compared to determine if peer learning had occurred. A post-workshop survey assessed participants' self-reported confidence in explaining the guidelines to others, and in performing the screening tests on others.

Results

72 participants (91% response rate) completed both pre- and post- workshop assessments. Using univariate analysis of matched cases, the median post-workshop quiz score was higher than the pre-workshop scores, with values of 9 and 7 respectively ($p<0.001$). In addition, there was an increase in self-reported confidence in explaining the guidelines ($p<0.001$) and performing the tests ($p<0.001$) after the workshop. A subgroup analysis showed that students involved in healthcare-related community service projects (Group A, n= 43) scored better than students not involved in such projects (Group B, n= 29) showed that median scores were higher in Group A than in Group B, with values of 10 and 8 respectively, ($p=0.035$). There is no significant difference between pre-workshop academic quiz for the two sub groups ($p=0.215$).

Conclusion

Peer-teaching is effective in improving the knowledge of screening guidelines among pre-clinical students. While our study did not explore reasons for this observed effectiveness of peer-teaching, a possible contributing factor could be the relatability in terms of age and experience resulting in the development of effective learning tools delivered during the workshop. The self-reported increased confidence in explanation of guidelines and performance of screening tests suggest that the workshop is beneficial to students involved in community health screening projects. Limitations of our project include the small sample size, the limited number of quiz items. Our results suggest that involvement in community screening has a significant correlation with higher quiz scores. Suggested further research could examine the motivations of participants and its effects on academic outcomes between students who serve in healthcare related community project against those who do not.

TRAINING ENHANCEMENT AND ACCREDITATION FOR COMMUNITY AND HOME EYE SCREENING (TEACHES) FOR OPTICIANS.

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Background and Aims

The TEACHES-Learning Electronic Module (TEACHES-LEM) trains opticians and assesses their competence to perform Torch-light Eye Screening Test (TEST) for community eye examination. This blended teaching involved a flipped classroom (e-learning platform with administrative and testing capabilities) followed by a brief face-to-face teaching (F2FT). It utilises cognition-enhanced learning (cognitive task analysis [CTA] and mental rehearsal [MR]) and test-assisted learning (repetitive vignette-based testing) to enhance teaching to reduce F2FT hours. We hypothesise TEACHES-LEM to be non-inferior to conventional F2FT.

The aim is to study the performance effectiveness of opticians trained by TEACHES-LEM versus F2FT.

Methods

Group 2 (n=60) had TEACHES-LEM (30 minutes: lectures and video-teaching of crucial examination steps identified by CTA) and F2FT (1 hour: clinical teaching and MR of examination steps)

Group1 opticians (n=57) had F2FT (4 hours: lectures and clinical teaching on TEST to detect common eye abnormalities).

Both groups were assessed with a 20-item clinical vignette-based MCQ pre-teaching and post-teaching (immediate, 1-month and 3-months). The practical test required demonstration of correct TEST steps and clinical sign(s) detection.

Results

Pre-teaching MCQ Test Scores (MTS) ± standard deviation for groups 1 and 2 respectively were comparable (10.40 ± 4.17 versus 10.02 ±2.79, p=0.563). The immediate post-teaching MTS for both groups improved (all p<0.01) and were comparable (13.28 ± 3.98 versus 12.34 ± 3.26, p=0.152), indicating non-inferiority of TEACHES-LEM to F2FT.

Post-teaching MTS showed similar improvements from baseline at 1 month (p<0.001) and 3 months (p=0.013). Post-teaching TS for both groups were comparable at immediate, 1- and 3-months (all p>0.05).

Mean paired differences in MTS for immediate post-teaching versus 1 and 3 months post-teaching were 0.5 ± 2.78 (p=0.345) and 1.75 ± 4.29 (p=0.185) respectively, indicating no knowledge decay.

Man-hour savings with TEACHES-LEM totalled $1,029 (Ophthalmologist 1 hour, optometrist 2 hours and secretary 2 hours)

Post-teaching survey (n=35) indicated 80% of opticians perform TEST in their practice; of which, 89.3% detected one/more abnormal eye condition requiring Ophthalmologist referral.

Conclusion

TEACHES-LEM was non-inferior to F2FT for MTS with knowledge retention up to 3 months. There was man-hour savings and situational applicability when TEACHES-LEM was used.

INTEGRATING PASS INTO THE SMART CURRICULUM- STUDENT AND FACULTY BENEFITS FROM A TWO-YEAR STUDY

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Background and Aims

The medical programme (MBChB) of the Chinese University of Hong Kong (CUHK) is a unique six-year programme adopting a SMART curriculum (S- Student Centred; M-Mentorship Based; A-Assured Knowledge Acquisition; R- Robust Clinical Teaching and T- Teaching Bioethics, Communication Skills and Professionalism. The providence of a student-centred learning environment is particularly important for the first year of study since it is a big transition for many of our medical students who progressed directly from secondary school education when a pre-medicine degree is not a pre-requisite for entry into the medical school. With the aim to inspire our students to undertake a self-directed and independent learning and to become equipped with being active learners since year 1, the Peer-Assisted Study Session (PASS) was introduced. PASS is a peer-driven study group that help new students with how to learn in a relaxed atmosphere and help students master subject content while gaining discipline specific study skills.

Methods

PASS leaders who are high achieving senior students were nominated by the course coordinators to conduct individual PASS throughout a Faculty foundation course in year 1 for two academic years (2016-2017 and 2017-2018). To ensure quality of the PASS, the potential PASS leaders were screened through a selection process chaired by an accredited PASS supervisor. The selected candidates then needed to go through a two-day intensive training workshop before the course commences. We investigated its benefits in three main areas: benefits to the PASS attendees, PASS leaders and the medical faculty.

Results

Students who attended PASS in 2016-2017 and 2017-2018 were evaluated by individual surveys with Likert scale and open-ended questions. On average, more than 60% and 80% of responses received in 2016-2017 and 2017-2018 have agreed that PASS improved understanding of course content, enhanced motivation to learn and improved confidence in expressing opinions in a group. The overall satisfaction on PASS in 2017-2018 responses increased 31% compared to the 2016-2017 responses. This improvement in satisfaction can be attributed partly due to the varied performance of the PASS leaders in different year. PASS leaders were interviewed after completion of PASS and all of the PASS leaders agreed that PASS enhanced their leadership and communication skills, added value to their CV, increased engagement with the course coordinator, assisted in developing personal skills and also at the Faculty level, improve their sense of belonging to the Medical Faculty.

Conclusion

The CUHK experience suggests that PASS has multiple benefits at student (PASS attendees and PASS leaders), teacher and Faculty levels and an effective peer support is a necessary and valuable component in medical studies.

ACTIVE LEARNING IN A CULTURE WHERE "SILENCE IS GOLDEN"

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Background and Aims

Meta-analysis of 225 studies comparing traditional lecturing to active learning in college STEM (science, engineering, and mathematics) courses found that active learning increases student performance on examinations by 0.47 SDs, and students in traditional lecturing classes are 1.5 times more likely to fail the course. (Freeman S. et al. Proceedings of National Academy of Science, 2014.) The question now is not whether we should incorporate active learning into medical education, but rather, how. This is especially critical in the parts of the world that lack the basic cultural components for successful active learning, such as valuing individual opinions; encouraging debate; and viewing student leaders and questions as not a loss of teacher authority, but rather indispensable opportunities for life-long learning.

In American classroom culture, for instance, students are encouraged to speak up and silence conveys a lack of attention or indifference. Despite this ideal cultural climate for active learning, abandoning lecture is still not an easy process. Traditional Japanese culture, for instance, values obedience and silence in the classroom, and students are neither ready nor willing to participate in class; therefore, successfully incorporating active learning in Japan is much more difficult. These additional cultural challenges need to be explicitly addressed first to reap the benefits of active learning in Japan, as found in the meta-analysis above.

Methods

International University of Health and Welfare (IUHW) School of Medicine opened in Narita, Japan in April 2017, and unlike any other medical schools in Japan, placed active learning at its educational core.

To achieve this goal, IUHW works to establish the 'right culture' for active learning: (1) Creating a first-name based student community to eliminate typical "vertical" senior-junior relationships; (2) Immersing students in constant small group discussion and group work (with frequent group changes); (3) Incorporating Team-based Teaching (TBT), where faculty members meet, discuss, and plan each and every class curriculum in advance, including reviewing each other's class material; (4) Implementing daily after-class survey questionnaires, which are reviewed by the Faculty Support Focus Group of the Office of Medical Education (OME), then discussed at the weekly OME meetings to provide clear course feedbacks; (5) Providing weekly FD (faculty development) to assist faculty members in planning and executing active learning.

Results

The above efforts successfully created the "active learning culture" at IUHW School of Medicine. The student body embraced active learning immediately and thrived, despite many having only ever experienced traditional lecturing prior to entering IUHW. On the other hand, faculty members vary in their willingness to try and interest in active learning. Moving forward, the challenge remains how to help those still indifferent to active learning.

Conclusion

The effectiveness of active learning is well established, however, cultural readiness for active learning has not always been addressed explicitly. We report our experience overcoming the lack of "active learning supporting culture" from Japan where "Silence is Golden."

Reference

Freeman, S., Eddy, S. L., McDonough, M., Smith, M. K., Jordt, H., & Wenderoth, M. P. (2014). Active learning increases student performance in science, engineering, and mathematics. Proceedings of the National Academy of Sciences, 111(23) 8410-8415.

COLABORATIVE, CASE-BASED LEARNING IN HISTOPATHOLOGY

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Background and Aims

Over the course of our combined 70+ years of teaching histology and histopathology in the pre-clinical phase of medical school, we have noticed that histology, and closely-related histopathology, seem to be difficult subjects for most medical students to master. We sought to eliminate the anxiety of looking at microscopic slides by using a video "talk-on" to each virtual slide, along with an accompanying written microscopic description. We provided static photomicrographs, first at low power, to show the area of interest (AOI), then a high power photomicrograph, to show the relevant histopathologic lesions. Hyperlinks to the relevant area of the virtual slide were provided, so that the student did not have to "waste time" finding the diagnostic areas by hunting aimlessly at high power.

Methods

We combined our formerly separate histology and histopathology labs into one exercise, because of our integrated, organ-based, pre-clinical curriculum, introduced about a decade ago. Our initial teaching paradigm was that each individual student would examine the assigned slide or slides, take a photomicrograph (or 3), and generate their own histology and pathology atlas. We have now modified our pedagogical approach, to a team-based, collaborative learning model, because most of our students were overwhelmed by the volume and complexity of the virtual slide data (scanned slides were between 4 and 10 gigabytes, each). A public server with 2 Terabytes of disk space contained the virtual slide collection.

In order to facilitate this collaborative process, we chose to use Microsoft Office 365® (O-365), and the included OneNote® program, because it enabled electronic ink annotations, which has been shown to increase deep learning.

To accomplish this goal, we broke the students up into small groups of "microdissection" teams, mirroring the approach we use in gross anatomy dissection. These collaborative groups of 3 or 4 students would then present their assigned clinical case, including medical history, relevant labs, imaging, gross pathology, and microanatomy, to their classmates. They worked in O-365 with the original case, contained in a "read only" class notebook, then copied their assigned case to a collaborative notebook, and finally copied all of the cases to their individual notebooks, after final annotation, during the live laboratory session. Each clinical case contained hyperlinked references to the medical literature (typically a pathology textbook or a general medical journal, e.g., The New England Journal of Medicine®).

Results

Student satisfaction scores improved markedly after the initiation of guided slide videos, and the linked AOI and zoomed diagnostic photomicrographs. However, constructing the hyperlinked atlas, histologic descriptions, and videos were extremely time-intensive for involved faculty (i.e., JF and RK).

Conclusion

About 185 cases and linked virtual slides have been completed, covering most of the clinical and pathologic material likely necessary for satisfactory completion of the USMLE Step I. We have additional virtual slides available, but now question whether histopathology remains relevant to modern medical education (we have heard rumors of the death of anatomic pathology). We believe microscopes will continue to used in modern pathology laboratories, and that others might find our digital microscopy materials useful.

SURGICAL COMPETENCE TRAINING USING PROJECT-BASED LEARNING METHOD WITH THE MOST RECENT ADVANCED EDUCATIONAL TECHNIQUES

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Background and Aims

Could project-based learning method favor the maximisation of trainees' surgical competence development? Our study evaluated the effectiveness of this method together with the most recent advanced educational techniques as a pedagogical strategy in surgical technique teaching at Vietnam Military Medical University.

Methods

Twenty trainees were divided into two groups: Group 01: 10 experienced surgeons with proficiency use of English. Group 02: 10 un-experienced technicians with un-proficiency English. Both subject to the project-based learning method (10 cases of intestinal transplant per group) with advanced educational techniques such as: video-based, simulation-based, internet-based... Surgical competence of all trainees were assessed before and after the course according to the "Surgical Competence and Performance" guideline of Royal Australasian College of Surgeons.

Results

Before the course, the competence of trainees in group 1 were significantly higher than those in group 2. But the development of surgical competence in group 2 was 30% higher than in group 1 and the competence achievement in both groups were not different after the course. All of trainees could perform intestinal transplant successfully from the 5th /10th in this training course.

Conclusion

Project-based learning method gratefully favors the maximisation of trainees' surgical competence development, particularly for un-experienced technicians with un-proficiency English. This method motivate and arouse interest, facilitated the understanding and memorisation of the steps for procedure implementation, benefiting the trainees' performance.

PLAYMED - BRIDGING THE GAP BETWEEN STUDENT AND DOCTOR WITH SERIOUS GAMES

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Background and Aims

We developed PlayMed as an online highly immersive role-playing game designed to educate medical students through experience-based learning in a virtual hospital. Online experiential learning through case-based 'bedside' scenarios aims to challenge and improve the knowledge of management and decision-making abilities expected of a junior doctor.

Methods

We performed a prospective, mixed-methods, case-control study on year 5 and 6 University of New South Wales (UNSW) medical students. Students were allocated as a cohort during their 10 week Paediatrics rotation to the Game or No Game (NG). Students in the Game cohort had a 1 hour demonstration of PlayMed during Week 1 and were given voluntary online registration details for download on their personal computers. Both cohorts were assessed in Week 5 of their rotation with a 10 question Acute Asthma Knowledge Quiz (AAKQ) derived from previous Australian Medical Council (AMC, 2008) and United States Medical Licensing Examination (Le et al, 2009) papers, as well as a validated Newcastle Asthma Knowledge Questionnaire (Fitzclarence et al, 1990) and past UNSW end of year multiple choice questions. Game students also completed a 16 question Feedback Questionnaire. Cohort comparisons analysed using Mann-Whitney U test and Fisher's exact test with a P-value of <0.05 considered statistically significant.

Results

A total of 62 Game students (35% male, 66% year 5) and 61 NG controls (44% male, 72% year 5) were included. Forty (65%) of the Game students registered online to play. Game students had significantly improved median (IQR) AAKQ scores when compared with NG controls, 7.0 (6 - 8) vs. 6.0 (5 - 7) respectively, P=0.002 (17% increase in performance). Students in the 'Game cohort who registered' also had significantly improved AAKQ scores when compared with NG controls and those who didn't register, 7.5 (6 - 8) vs. 6.0 (5 - 7) respectively, P<0.0001 (25% increase in performance). Of the 10 AAKQ questions, the Game cohort performed significantly better than the NG cohort on 2 questions: (i) What are the three (3) main symptoms of an attack of acute asthma? (58% vs 38% correct respectively, OR (95% CI) 2.3 (1.1 - 4.7), P=0.03); and (ii) Name three (3) therapies (including but not only medications) which may be useful during an acute attack of asthma? (86% vs 53% correct respectively, OR (95% CI) 5.3 (2.2 - 12.7), P<0.0001). There were no statistically significant differences between the other questions. Sixty-one Game students (98%) completed the feedback questionnaire. The majority of students agreed that the game: (i) helped to improve their understanding of the topic (87%), and (ii) will prepare them for real-life clinical scenarios (93%).

Conclusion

This pilot study provides support for the role of serious games in medical and clinical management education. Online experiential role-playing can engage and educate students through transformational play. Further development of PlayMed as a comprehensive paediatric educational tool for medical students is underway.

FREE COMMUNICATIONS 10 – TECHNOLOGY ENHANCED LEARNING

Enhancing Spatial Abilities and Learning Outcomes through 3D Interactive Technology: A Randomised Controlled Trial in Dental Education
Fu Jia Hui, Singapore

Virtual Reality Simulation in Paediatric Training
Janaya Elizabeth Perron, Australia

Effects of Simulation-Based Education Compared with Those of Lecture Style Education on First-Year Junior Residents Led by Second-Year Junior Residents
Akira Yamamoto, Japan

A Novel Application of Augmented Reality Technology in Anatomy Teaching
Florence Mei Kuen Tang, Hong Kong S.A.R.

Effects of Simulation-Based Education for 1st Year Medical Residents During Their Emergency Department Duties
Taku Murakami, Japan

Incorporating E-Mentoring into Medical Education: Thematic Analysis of E-mentoring Programme to Develop Framework
Toh Ying Pin, Singapore

New Innovation using Artificial Intelligence (A.I.) to Improve Surgical Timings and Operating Room Efficiency in Orthopaedics Residency Trainees
Chee Yu Han, Singapore

Learning Analytics on the Go
Susie Schofield, United Kingdom

ENHANCING SPATIAL ABILITIES AND LEARNING OUTCOMES THROUGH 3D INTERACTIVE TECHNOLOGY: A RANDOMISED CONTROLLED TRIAL IN DENTAL EDUCATION

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Background and Aims

Spatial ability (SA) is an innate skill to mentally manipulate 2D and 3D images and their spatial relations. This is particularly important in dentistry because the longstanding problem with dental training is to translate 2-dimensional (2D) images into 3-dimensional (3D) images and subsequently work on these 3D objects e.g. teeth in jaw bone that are in different spatial relationships. Therefore, this study aimed to investigate the effect of a 3D digital resource on spatial ability and learning outcomes of dental students.

Methods

At baseline, dental students (n=54) were categorised into baseline high and low SA. Within each category, they were randomly assigned to receive scheduled course material only (control) (n=27) or with a digital resource (test) (n=27). Students would take a SA test at the end of dental morphology (DM) and pre-clinical endodontics (PCE) modules. Statistical analyses were performed with STATA/SE15 to determine the association and interactions of baseline SA and learning outcomes between the test and control groups, with significance set at 0.05.

Results

Students with higher baseline SA scored significantly better in the practical assessments in both dental modules (DM: p=0.023; PCE: p=0.011). Addition of the 3D resource did not improve the students' performance in both practical and theory assessments (DM: p=0.091 (practical) and p=0.523 (theory); PCE: p=0.777 (practical) and p=0.410 (theory)). Students with low baseline SA scored significantly better if they used the 2D resource (p=0.002). However, they seemed to improve over time and there were no significant differences between the test and control groups over time. Students with high baseline SA presented with significantly higher SA test scores over time (p<0.001). However, there was no significant difference in the SA scores of students in the test and control groups over time (p=0.183). There was also no interaction effect between the baseline SA scores and the assignment to 2D or 3D resource (p=0.196). The SA test scores across the study period were significantly influenced by the baseline SA test scores (p=0.006) but were not modified by the use of the 2D or 3D resource (p=0.576). Significant changes in the SA test scores were observed over the study period (p<0.001). Students with the low baseline SA scores had significantly greater increase in the SA test scores over the study period as compared to students who had high baseline SA test scores.

Conclusion

Use of the 3D resource did not improve the SA of the students and in fact might have adversely affected those who have a low baseline SA. Therefore, it appeared that the conventional teaching method of using line diagrams of different views worked well for all types of students. There was progressive improvement in SA of the students over a course of 2 years, which was not influenced by the use of the 3D resource. The progression of SA was dependent on the baseline SA of the students. Those who had low baseline SA progressed most over time compared to those who had high baseline SA.

VIRTUAL REALITY SIMULATION IN PAEDIATRIC TRAINING

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Background and Aims

The introduction of virtual reality in medical education offers an innovative opportunity to learn and train in an engaging, safe, simulated clinical environment. The immersive experience allows learners to achieve and maintain skill mastery by applying theoretical knowledge in a practical, realistic setting without risking patient safety.

We have developed a virtual reality simulation, Virtual Doc, that teaches paediatric cardiopulmonary resuscitation to medical students, doctors, or healthcare professionals. The aim of our study is to evaluate the acceptance of, interest in, usability of, and educational value of Virtual Doc.

Methods

We recruited medical students through voluntary convenience sampling. The game was designed for Oculus VR and involved a paediatric cardiac arrest scenario. Participants were required to bag and mask, perform compressions, and defibrillate the patient. Each participant attempted at least one full Virtual Doc case and completed two mixed-methods survey questionnaires. Survey 1 assessed game design through responses to 2 items on 3-point Likert-type scales. Survey 2 evaluated the potential educational value through responses to 7 items on a 7-point Likert-type scale, 2 items with yes/no/not sure responses, and 1 item outlining his or her preferred teaching method. The responses were analyzed using descriptive statistics.

Results

The response rate for Survey 1 on game design was 92.3% (24/26). The virtual environment was regarded as very, moderately or not at all consistent with a real-world clinical experience by 25.0%, 58.3% and 16.7% of respondents, respectively. The immersive nature of Virtual Doc was regarded as completely engrossing, mildly involved or not involved by 58.3%, 37.5% and 4.2% of participants, respectively.

The response rate for Survey 2 regarding educational value was 88.5% (23/26). In terms of usability and gameplay, 69.6% and 73.9% of participants agreed with ease in understanding how to play the game and found the gameplay elements useful in understanding cardiopulmonary resuscitation, respectively. However, only 30.4% of participants found it easy to work with the interactive elements. The educational validity of Virtual Doc was supported by 69.6% of participants agreeing with an improved understanding of cardiopulmonary resuscitation. In addition, 91.3% of participants agreed that using Virtual Doc to explore different cases for different medical presentations beyond this scenario will help with learning. Furthermore, 78.3% of participants agreed that Virtual Doc will help prepare for and deal with real-life clinical scenarios. In terms of teaching preference, 82.6% of participants favoured technology-based teaching or were indifferent to the approach. Virtual Doc was enjoyed by 91.3% of participants, whereby 73.9% and 65.2% of participants would recommend this simulation to a colleague or friend, respectively.

Conclusion

Our findings demonstrate a positive response to Virtual Doc and its validity in medical education. The features of virtual reality simulation parallel andragogical principles for effective education. We will further investigate the efficacy of Virtual Doc by increasing our current sample size and by evaluating a randomized controlled trial.

EFFECTS OF SIMULATION-BASED EDUCATION COMPARED WITH THOSE OF LECTURE STYLE EDUCATION ON FIRST-YEAR JUNIOR RESIDENTS LED BY SECOND-YEAR JUNIOR RESIDENTS

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Background and Aims

In many fields, simulation-based education has been shown to have more effective results than traditional lecture education. In medical filed, simulation-based education can be repeated with virtually complete safety, unlike in traditional clinical education sites, where mistakes are not permitted. Simulation is used in many procedures, such as specialised procedures or emergency outpatient treatments. While the teaching staff for simulation training usually comprises specialists, the teaching staff for training junior residents at traditional clinical sites usually comprises senior residents, who have had only a little more career development in postgraduate education than the students they are instructing. In this study, we examined the promotion of consciousness and behavior of first-year junior residents by second-year residents conducting simulation education compared with traditional lecture education.

Methods

This interventional education study was conducted at Okayama University Hospital for 1 week on first-year residents before starting clinical practice. A total of 108 first-year residents were enrolled and randomised in three groups: simulation-based mastery learning, traditional lecture, and control groups. Second-year residents volunteered to conduct simulation and lectures using identical teaching materials (three scenarios were prepared) and goals. First-year residents were evaluated for improved knowledge, changes in consciousness and behavior using questionnaires as well as pre- and post-intervention knowledge tests.

Results

The study revealed that (1) pre-intervention knowledge test scores of the trainees showed no significant differences across the three groups. However, the post-intervention knowledge test scores in the simulation and lecture groups were higher than those in the control group. (2) Self-evaluation of personal behavior, as well as self-consciousness change and skill improvement, were better in the simulation group than in the lecture group. Regarding behavior changes, we found that the self-study time of the trainees had increased more in the simulation-based group than that of the trainees in the lecture group. Considering consciousness change, the first-year students felt that simulation education relieved stress at clinical site than traditional lecture education. (3) Regarding overall program evaluation, the trainees considered that second-year resident instructors were a more suitable teaching staff in the simulation group than in the lecture group. Trainees in the simulation-based group thought that this program was meaningful and should be continued in the future, more than those in the lecture group.

Conclusion

The effectiveness of simulation-based medical education conducted by specialists has been reported in many fields. However, we found that simulation-based training led by second-year junior residents, not specialists, can potentially improve postgraduate education for first-year junior medical residents.

A NOVEL APPLICATION OF AUGMENTED REALITY TECHNOLOGY IN ANATOMY TEACHING

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Background and Aims

Anatomy teaching is an essential curriculum for health professional education, but they do not need to have the cadaveric dissection. Conventional teaching methods, such as face-to-face lecture, or web-based platform cannot meet students' learning needs in grasping anatomical structures easily. Using the example of teaching the anatomy of the urinary system; during the practical session, there are more than twenty students in one group, teachers find difficulty to show and explain the structures of a kidney in the roundtable as the actual size of the plastinated organ specimen is small, and student cannot view the detail of the structure easily.

The augmented reality (AR) is the application of computer-generated perceptions to integrate the information into the learning environment which can make the concept much more clearly. The novel technology of AR creates a live overlaid view in a real-world environment by computer-generated sensory input data also provides an alternative in Anatomy teaching. Regarding the impact of AR, we have investigated if it creates the learners' sensation of reality and engages them in experiential learning with enjoyment.

Methods

Our team developed courseware using AR with three dimensional (3D) scanning technology, providing an excellent sight stimulation to study human organ, using the urinary system as a pilot module. Through this AR tool, students can use their smartphones to screen the 3D printed kidney model; and all the information of the internal anatomical structures is pop out in details. Students acquire the knowledge from the interactive multi-media material in positive experiential learning. Besides, a teacher can explain more the clinical significances of what they examined. The innovative activity facilities the cognitive memory via active learning effectively.

Results

The AR tool is implemented in the practical session of Anatomy course for the Year 2 Pharmacy students. From our pilot study, the AR technology provides several educational implications: (1) our team has designed the novel AR-based experiential learning environment for health professional studying Anatomy: (2) it bridges the interactive learning gap between the factual knowledge with text content type in the book and the 3D model in class and (3) it facilitates students' learning medium in acquiring anatomical knowledge for understanding the spatial relationship of the organs.

Conclusion

The potential and affordance of the AR technology are being valued and extended to the strategic pedagogy in the future health professional education.

EFFECTS OF SIMULATION-BASED EDUCATION FOR 1ST YEAR MEDICAL RESIDENTS DURING THEIR EMERGENCY DEPARTMENT DUTIES

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Background and Aims

Many studies report that simulation-based education is more effective in acquiring skills and knowledge for learners compared to lecture-based education. Simulation-based education is used in medical fields for training medical doctors and residents. Most of these studies train learners by simulation-based education, then check their skills and knowledge after the training, in order to evaluate the effect of the simulation. However, only few studies evaluate the actual effect of simulation training based on the everyday medical duty. Our study focuses on the effect of simulation-based education for 1st year medical residents during their emergency department duties.

For previous research, from year 2015 to 2017, we divided 108 1st year medical residents in Okayama University Hospital into 3 groups - Simulation-based education group, lecture-based education group, control group - and analysed the effect of simulation-based training by questioners and examinations. As a result, simulation-based training was highly effective compared to the lecture-based education. Our following study is an additional study designed to evaluate the 3 groups during their emergency department duties and analyse the effects of simulation-based education.

Methods

For methodology, we analysed the 1st year residents' performance throughout their 1st to 4th emergency department duties, by using subjective questionnaires and objective checklists. The questionnaire and the check list were on one-to-ten scale, and evaluated residents' medical skills such as physical examinations, laboratory testing, differential diagnosis, as well as their psychological state such as attitude and stress during their duty. Also, for the simulation-based education group (n=38), we compared the results of the questionnaires and checklists during emergency department duties with the results of the questionnaires and examinations of the previous study, to analyse the relationship between the effects of the simulation training and the residents' demographics. All the data were analysed statistically by using methods such as; t-test, Kruskal-Wallis test, Mann-Whitney test, and ANOVA.

Results

As a result, for objective evaluation, the performance of the simulation-based education group was the same compared with the other groups during the 1st emergency department duty but improved during the 2nd and the 3rd emergency department duties, exceeding the performance of the other group. For subjective evaluation, we found that the simulation-based education group felt that the trainings they were given were useful during the emergency department duties more than the lecture-based leaning group, by comparing the two groups. Also, by analysing the relationship between the effects of the simulation training and the residents' demographics, we found that the residents' aspiring department, or the former experience of simulation training, or the score of the examination, do not affect the effect of the simulation-based education.

Conclusion

Thus, this study concludes that: (1) Simulation-based education can improve the performance of the 1st year residents and give them high satisfaction during their emergency department duties, (2) Simulation based education should be repeated throughout the residency program since the educational effects take time to become apparent, (3) Simulation-based education can give good results independently of the residents' score of the examination, aspiring department, and the former experience of simulation training.

INCORPORATING E-MENTORING INTO MEDICAL EDUCATION: THEMATIC ANALYSIS OF E-MENTORING PROGRAM TO DEVELOP FRAMEWORK

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Background and Aims

E-mentoring provides better access to timely, personalised, and appropriate mentoring support, whilst circumventing prevailing shortages in mentors and 'protected time' for mentoring. Yet this approach remains poorly utilised owing to a lack of understanding of the process. This systematic review of prevailing e-mentoring programs in the undergraduate and postgraduate medicine context seeks to address this gap and forward an evidenced based framework to guide integration of e-mentoring into present medical education programs.

Methods

Using a unified approach based upon PRISMA, COREQ and MERSQI guidelines, five authors performed independent literature reviews of e-mentoring using ERIC, Embase, PubMed, Cochrane Database of Systematic Reviews and Google Scholar databases. Articles published in English, or had English translations, published between between 1st January 2000 to 31st December 2017 were included. Braun and Clarke's approach to thematic analysis was adopted to circumnavigate e-mentoring's evolving, context-specific, goal-sensitive, learner-, tutor- and relationally-dependent nature that prevent simple comparisons of e-mentoring practice across different settings and mentee and mentor populations.

Results

5395 abstracts were identified, 100 full text articles were reviewed, and 16 articles were thematically analysed to highlight 6 themes including a working understanding and definition of e-mentoring, the e-mentoring process, e-mentoring environment and platforms used, and the e-mentoring relationship.

Conclusion

The themes identified highlight the pivotal role of nurturing the e-mentoring relationship in a consistent and personalised manner. Whilst e-mentoring may be effective on its own, perhaps more interesting is the promise of a blended approach with e-mentoring supporting a novice mentoring approach which is characterised by mentoring between senior clinicians and junior doctors and or medical students. A blended approach appears more sustainable and appropriate for the demands of modern mentoring and promises a better means of facilitating timely, effective and personalised support of the mentoring relationship. Such a blended approach pivots upon two considerations- the host organisation and the presence of a consistent and yet flexible framework to guide the blended approach.

An effective blended approach must be supported by a host organisation that undertakes effective 'matching' or pairing of mentors with mentees with similar interests and complementary characteristics. The host organisation must also oversee the progress of the mentoring relationship, nurture the mentor ring relationship, and create a supportive mentoring environment. Its support of mentee and mentor training and its auditing of the blended mentoring process further underlines the role of the host organisation.

The blended approach must be consistent to ensure effective oversight of the process and consistency in the experiences of mentees yet also be sufficiently flexible to meet the evolving needs of the mentee and the changing demands upon the mentoring relationship.

Whilst seemingly intuitive employ of a blended approach must be financially and practically supported and effectively integrated into the prevailing curriculum. More study of a blended approach is required to validate this posit.

NEW INNOVATION USING ARTIFICIAL INTELLIGENCE (A.I.) TO IMPROVE SURGICAL TIMINGS AND OPERATING ROOM EFFICIENCY IN ORTHOPAEDICS RESIDENCY TRAINEES

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Background and Aims

With the reduction of training hours for surgical trainees and early entry into surgical residency, surgical tutors are finding that many residents lack the essential skills in performing the most basic of surgery. This inadvertently leads to prolonged surgical timings and thus over-running of the day's operating list. There is no easy solution, as in the past, trainees spend many more hours and years in training. We now know that this practice is not in the best interest of their general well-being and on patients' safety. Yet, a slow surgeon with poor surgical planning can often put their patient's well-being in jeopardy during surgery with increase risk complications from blood loss and prolonged anaesthesia.

Methods

We piloted a study in the orthopaedic trauma operating theatre in the practice of taking control and delivering efficient service by measuring the operation timings in real time. In order to emulate an exemplary surgeon who is skilled, efficient, work-smart and always in-controlled, we listed down several important 'milestone timings' that is essential in ensuring a case goes smoothly. These include the operation start time, knife to skin, implant insertion, start of skin closure and end time of surgery. This acts as a guide for the entire operating team to visualise and to anticipate the next step. Importantly for the surgeon, it acts as a measurement tool of their surgical speed, offering a target to the finishing time and as a personal goal if they achieved completion of the surgery in the set time. In our new initiative, we used a new device called the 'Google Home Mini' which is voice controlled to capture these timings and a new software is created to capture all cases into a structured excel file for easy result analysis. Residents regardless of their level of training were encouraged to put this method into practice. Each of these operations was performed with close supervision as with other cases in our teaching hospital. The timings were then used to improve their operative speed and time management.

Results

Our results showed that there is measurable improvement to the surgical timings when compared to when the surgery wasn't timed. The residents felt that their timings have improved rather rapidly case on case as they are more focused during the surgery, goals are set prior to starting the case and at the same time they find this practice highly challenging. They can now gauge how long a subsequent surgery is going take in their hands and are able to self-reflect and improve on certain milestone timings for future cases.

Conclusion

This novel method of incorporating new innovative an A.I. device with humanistic self-awareness has been introduced into our practice in the operating theatres. We are please to share that it can be a powerful tool to help the young surgeon develop mindfulness, self-discipline, set targets, plan with an end vision in mind and more importantly to improve the delivery of better quality and safer healthcare to our patients.

LEARNING ANALYTICS ON THE GO

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Background and Aims

Learning analytics is the use of data about learning, in order to allow tutors to identify students who require additional support, and allow students to set goals and track their learning progress. Ultimately, it enables informed and timely decisions to be made - maximising the effectiveness of learning. Literature reveals that learning analytics has increased student success in institutions across the globe. However, research specific to learning analytics in medical education is lacking. It is therefore vital to explore the views of medical students and their tutors regarding learning analytics, as the deployment of such technology in medical education could be hugely beneficial in the long-term. The aim of this project is to introduce students and tutors to a learning analytics app "StudyGoal" by JISC (https://docs.analytics.alpha.jisc.ac.uk/docs/study-goal/Home), and conduct a preliminary analysis of their awareness and views on learning analytics.

Methods

The literature regarding learning analytics and a learning analytics app "StudyGoal" by JISC, were explored, to inform semi-structured interviews. Ethical approval was granted by the University of Dundee. Six medical students and six tutors at the University of Dundee Medical School were invited and consented to interview. Each interviewee was given a demonstration of the "StudyGoal" app, and then interviewed. Interviews were recorded, transcribed, thematically coded, and analysed.

Results

The project yielded interesting findings regarding interviewees' awareness and views on different aspects of learning analytics.

Very few had ever heard of or were able to define the term "learning analytics". All interviewees could see benefits of using learning analytics; particularly, they spoke favourably of the ability to set targets, track progress, and communicate feedback more efficiently. However, a few tutors and students worried about using technology such as apps in learning. Reasons included: having preferred learning methods, and not having enough experience of using technology such as this previously in teaching

Interviewees had mixed opinions on whether the ability to compare performance to others in a cohort is beneficial or not. Overall, most were in favour, though a few felt that comparison is only beneficial if data are anonymised.

Students were particularly enthusiastic about their desire for more feedback - unanimously agreeing that they would like to receive notifications from tutors via an app. Most tutors expressed a desire to provide feedback through an app, but some were hesitant - not wanting to pressure students. Overall, interviewees were overwhelmingly in favour of the learning analytics app, with one student commenting they would like such technology integrated into the curriculum, and two tutors expressing a desire to be educated on how to use such technology.

Conclusion

The results show that students and tutors alike have a clear desire and need for better methods of tracking learning progress and communicating feedback, and that learning analytics was well-received by them all. It is possible that this could be the solution to the gaps in medical education. Next steps include educating students and staff on learning analytics, deploying learning analytics technology (such as the JISC "StudyGoal" app) within the medical curriculum, and evaluating its success.

SHORT COMMUNICATIONS 1

D1001	**Perception of House Officers on Wellbeing During their Internship in Myanmar** Wunna Tun, Myanmar
D1002	**Faculty Perspectives of Teaching in National Dental Centre Singapore (NDCS)** Marianne Ong, Singapore
D1003	**A Strategy for Internal Auditing and Quality Assurance System in a Private College in Saudi Arabia** Heba Mohtady, Saudi Arabia
D1004	**Regional Implementation of a New International Facial Trauma Course in Asia Pacific** Lim Thiam-Chye, Singapore
D1005	**Social Media Use During Residency Training** Moza Mubarak AL Kalbani, Oman
D1006	**Different Ways of Knowing: Questioning the Evidence Behind IPE and IPC** Elise Paradis, Canada
D1007	**Medical Humanities: A Truly Interdisciplinary Pedagogical Initiative in Asia's Universities?** Harry Yi-Jui Wu, Hong Kong

D1001

PERCEPTION OF HOUSE OFFICERS ON WELLBEING DURING THIER INTERNSHIP IN MYANMAR

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Background and Aims

Wellbeing of doctors are usually neglected in developing countries. The wellbeing of house officer is important as they are front line healthcare professionals. Medical institutions need to take care of the wellbeing of doctors as well as safety of patients. Burnout of doctors can lead to negative impact on the patients under their care. The work life balance of house officers is essential for the best interest of patients. The aim is to investigate the house officers' perception of their wellbeing during internship training in Myanmar.

Methods

A questionnaire survey was conducted on attendees of continued medical education program. They were asked about physical stress and depression symptoms they might have developed during internship.

Results

We found that majority of house officers developed depression symptoms during their internship. Female doctors are more likely to leave medical professions after internship than their counterparts. Generally, house officers reported their working hours were long and they experienced burnout, resulting in poor job satisfaction during internship.

Conclusion

It is essential to know the impact on house officers' wellbeing as they are essential healthcare workforce of Myanmar. Poor working environment may deteriorate their wellbeing, leading to migration of Myanmar doctors to developed countries. Policy makers need to ensure safe working environment to prevent further depletion of human resource in healthcare sector of Myanmar.

D1002

FACULTY PERSPECTIVES OF TEACHING IN NATIONAL DENTAL CENTRE SINGAPORE (NDCS)

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Background and Aims

Since the 1990s, NDCS has been involved in training the oral health care team consisting of dental specialists, dental assistants, dental technicians and oral health therapists. With the establishment of the SingHealth Duke-NUS Oral Health Academic Clinical Programme (ORH ACP) in 2014, NDCS faculty have been encouraged to attend faculty development workshops. The purpose of this survey was to gauge NDCS faculty involvement and their perspectives of teaching in the four structured educational programmes run by NDCS in collaboration with our education partners: National University of Singapore (NUS), Institute of Technical Education (ITE) and Nanyang Polytechnic (NYP).

Methods

A pen-and-paper survey was conducted from May to June 2017. Hard copies of a 22-item survey were distributed by an executive from the ORH ACP office to NDCS faculty teaching in the NUS Master of Dental Surgery Residency Training programmes, ITE Certificate in Dental Assisting programme, ITE Certificate in Dental Technology programme and NYP Diploma in Oral Health Therapy programme. Faculty indicated their level of agreement with 11 statements (of which 2 were negatively stated) on their perspectives of teaching on a 5-point Likert scale (1= not at all to 5= extremely). The executive collated the anonymised data for reporting of descriptive statistics.

Results

Forty-nine faculty (38 females, 11 males) completed the survey with a response rate of 60.49% (49/81). 61.22% (30/49) were clinicians (dental officer, registrar, associate consultant, consultant, senior consultant) and 38.78% (19/49) were non-clinicians (administrator, dental assistant, dental technician, dental radiographer, oral health therapist). 28.57% (14/49) were involved in both didactics and clinical teaching/ on-the-job training. 18.37% (9/49) were involved in two or more of the educational programmes. 63.27% (31/49) had attended a faculty development workshop in the past while 79.59% (39/49) indicated their interest to attend one in future. Perceived barriers to attending faculty development programmes (FDP) included lack of time and lack of information of how and what to attend (33/49). Overall mean ratings on faculty's perspectives of teaching ranged from 3.66 ('I make every encounter with a student/ resident/ dental officer a teaching encounter') to 3.89 ('I believe NDCS values good teaching'). The 2 negatively stated items had mean ratings of 3.19 ('Teaching is difficult because I do not have time to teach') and 3.30 ('I find teaching difficult because the patient volume/ case load is too high'). The mean rating for 'Overall I am satisfied to be a teacher' was 3.62 and 71.43% (35/49) were content to teach at their current pace.

Conclusion

In summary, NDCS faculty appear to be satisfied with their current teaching involvement in the 4 structured educational programmes. There is interest by faculty to attend FDP to improve their teaching skills. We will continue to seek ways to address the barriers faced by faculty attending FDP as we continue to engage them and support their faculty development. Our faculty are instrumental in engaging and teaching learners as we continue in our mission to educate and nurture the next generation of oral health care professionals.

D1003

A STRATEGY FOR INTERNAL AUDITING AND QUALITY ASSURANCE SYSTEM IN A PRIVATE COLLEGE IN SAUDI ARABIA

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Background and Aims

The effectiveness of higher education institutions in achieving their goals and meeting accreditation requirements are proven by quality audits. Therefore, a strategy for internal auditing has been developed and adopted in Fakeeh College for medical Sciences (FCMS); as a part of internal quality assurance system (IQAS). FCMS-IQAS strategy included a four steps auditing cycle (4 A's): Audit, Assess, Assure and Accredit.

The purposes of this study were to promote the introduction of a quality assessment system within the college and to ensure the provision for high-quality education. Moreover, enhancing continuous quality culture was targeted.

Methods

This study addresses the implementation of the first cycle of IQAS; during one academic year (2016-2017). The auditing cycle started by establishing the goal and formulation of the internal auditors' team. It focused on the eleven (11) standards published by National Commission for Academic Accreditation and Assessment in Saudi Arabia. In addition, it included five areas: academic services, administrative services, student support services, community engagement together with services and research output.

Results

The findings of the audit were submitted and respective action plans were developed. The entire auditing process included three subsequent audits and it was evaluated using gap analysis technique. Based on this analysis, some positive findings were revealed. These included supportive leadership, cooperative committed team, well-defined quality system and objective judgment. On the other hand, areas that need improvement were disclosed such as narrow scope of this audit cycle (institutional level of accreditation only) and the engagement of staff members with coincident multiple tasks.

Conclusion

Based on the above, program accreditation related items were recommended for the upcoming cycle. In addition, coaching and training of extra staff members to join the team. Finally, time limitations are to be considered in the following cycles.

REGIONAL IMPLEMENTATION OF A NEW INTERNATIONAL FACIAL TRAUMA COURSE IN ASIA PACIFIC

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Background and Aims

An international planning committee defined a curriculum for an accepted standard of facial fracture care worldwide using backward planning to identify patient problems and surgeon gaps. A competency-based course was designed with standard objectives to deliver through lectures, small group discussions, and practical exercises (30%). Educational outcomes in each region were analysed and compared to worldwide.

Methods

The course was attended by 1,538 participants in 38 cities worldwide in Asia Pacific, Latin America, Middle East, and Europe in 2017. 555 participants attended 12 courses in Australia, India, China, South Korea, New Zealand, and Indonesia [average = 43, range 14-64]. During 2018, a further 500 participants will attend 13 courses in the region and data from the 2 years will be compared.

Results

Participants in Asia Pacific compared with worldwide were: oral/maxillofacial (65% vs 61%), plastic (24% vs 19%), head and neck (4% vs 7%), ear, nose, and throat (3% vs 11%), and other (4% vs 3%) surgeons. 61% graduated in the past 5 years (residents) and 39% > 5 years ago (63% and 37% worldwide). 158 participants completed pre-assessments at 9 courses (162 completed post-evaluations). The educational impact score in Asia Pacific averaged 4.78 on a 1 to 5 scale (1 is poor, 5 is excellent) compared with 4.78 for courses worldwide, with 83% of participants learning something new for their practice and 11% confirming their current practice was up to date. Self-assessed precourse and postcourse gaps decreased from 1.88 to 1.05 (1.93 to 1.17 worldwide). MCQ scores increased from 51% to 57% (53% to 64% worldwide). 155 of 157 responders reported they would recommend the course to colleagues.

Conclusion

The data reported in Asia Pacific were positive and the outcomes were similar worldwide. The course appears to meet educational needs for residents and practicing surgeons and the data show it is possible to create a medically specific curriculum for the international surgical community.

SOCIAL MEDIA USE DURING RESIDENCY TRAINING

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Background and Aims

Social media plays a major role in the revolution of medical learning. Many training centres have incorporated it into their teaching curriculum. The aim of this research is to evaluate the current utilisation of social media by residents and its effect on their learning process during their residency training.

Methods

We performed a quantitative cross-sectional survey based study. A 20-questions survey was constructed and distributed to residents from all specialties and training levels registered under the national specialty board in training period 2014/2015.

Results

132 (69%) of the resident use social media as a platform for asking medical questions and half of them use it to consult experts in the field and to discuss cases. The most popular media for learning was You Tube 104 (55%) and free chat 49%. (71%) did not receive any course or guidance on how to use social media for educational purposes and 83.2% believe that a course or a formal lecture is needed.

Conclusion

In line of these results medical educators should pay attention to these sites and incorporate appropriate strategies to guide residents on effective use of social media.

DIFFERENT WAYS OF KNOWING: QUESTIONING THE EVIDENCE BEHIND IPE AND IPC

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Background and Aims

When they think about evidence, most healthcare scholars will likely think about the so-called hierarchy of evidence pyramid, which posits that one can rank types of research studies from the most to least authoritative, from systematic reviews of randomised controlled trials, to randomised controlled trials, other clinical trials, cohort and case control observational studies, and then at the bottom to case studies, anecdotes, and personal opinions. This hierarchy of evidence, however, is not value neutral, and emerges directly from a positivistic research paradigm. Our aim here is to engage readers in critical thinking about what they mean when they talk about teams, teamwork, and education for collaboration, so that they can: (1) more accurately select the concepts that reflect the reality they are trying to study; (2) more diligently select evidence that supports the claims they are making; (3) more rigorously interpret what their research tells them about clinicians, the organisation of their work, and how they can learn to work effectively together.

Methods

In this chapter, we use different forms of evidence to question three of the core tenets of interprofessional work and interprofessional education. We use a narrative approach to analyse our previous experiences with research on teams, work on teams, and teaching about teams.

Results

First, using a moment of contention during one of the first author's projects on team dynamics in the intensive care unit, we problematise what healthcare teams are, and how they are typically constructed in the tools we use for evaluating and improving teamwork. Second, using the second author's experiences with an inpatient rehabilitation unit team, we problematise teamwork itself, showing the contextual nature of work and team activities, and analytically disentangling their constitutive parts. Finally, we use our experiences with student resistance to interprofessional education to problematise IPE as a solution that can help clinicians do things with teams that are not always "teamly," and do work that is not necessarily "teamwork."

Conclusion

In this chapter, we have exposed how our shared experiences of teams and of teamwork raise important questions about these concepts and how they are used. Ontologically, we have questioned our field's assumption that teams and teamwork in healthcare are unproblematic entities. Epistemologically, we have suggested that teams and teamwork cannot be easily known, defined, labelled, or compared. Methodologically, oversimplified understandings of teams and teamwork can lead to an over-reliance on tools and toolkits that are incommensurate with the rich socio-technical realities of healthcare. Educationally, if we reduce teams and teamwork to scales, boxes, caricatures and stereotypes, we will not prepare students for the realities of clinical practice. By focusing on roles and scopes, and prescribing appropriate viewpoints and behaviours, we invite resistance and potentially backlash. Stronger, better understandings of the concepts at the core of our initiatives will ensure that we maximise the impact of our work by creating models that closely resemble, reflect, and transform actual healthcare delivery.

MEDICAL HUMANITIES: A TRULY INTERDISCIPLINARY PEDAGOGICAL INITIATIVE IN ASIA'S UNIVERSITIES?

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Background and Aims

Medical Humanities (MH) has become either a scholarly discipline or a pedagogical instrument as part of medical education towards the end of the 20th Century. In Asia, MH has been incorporated into formal medical curricula in different medical schools. Cited by educators in various higher education institutions, MH is characterised by an interdisciplinary pedagogy by nature. Responding to various needs in teaching and research, however, the functional definitions of MH have been vague and indistinct. Universities have been hiring humanities scholars or social scientists to teach MH to nurture reflective capacity or criticality among medical students. Studies, nevertheless, have pointed out that teachers face a range of challenges including the disadvantage of disciplinary identity, dissimilar ways of knowledge making and unfamiliar performance evaluation criteria. While biomedical sciences focus on metrics and indicators to understand diseases and health conditions, humanities emphasises on heuristic and undeductible analytical frameworks.

Methods

This study collects responses from MH teachers in Hong Kong, Taiwan and Singapore to the following questions: 1. How do humanities and social scientists scholars see themselves in medical schools regarding their role as educators, researchers and communicators? 2. How do the dissimilar disciplinary backgrounds of MH teachers influence the design and delivery of medical education in different medical schools? 3. How does knowledge production in the field of MH impact clinical medicine, public health and emerging care industry in the specific cultural context?

Results

Shifted identity is observed among MH teachers from pure academics to active communicators across disciplines. With their new identity, MH teachers perceived these crises as avenues to exercise their agency to inspire the design and the delivery of medical education, as well as take further steps to influence policy making. A larger problem, nevertheless, lies in how higher education is imagined, operated and manipulated in the institutions where the scholars work. Tensions are found regarding the impartiality of performance reviews or criteria for promotion on the tenure tracks of humanities and social science scholars working in a biomedical-oriented environment.

Conclusion

The development of medical humanities in Asia's universities epitomises the conflicts between the two pursued values: interdisciplinarity and internationalisation. For the past decade, scholars have called for 'global medical humanities' in response to the initiatives such as democratising medicine that incorporate global values and logics. Identical appraisal of Asian curricula regarding their positions in the world, nonetheless, have not yet been critically conducted. This study finds the pressing need for developers of MH to rethink and strategise the way that the teaching of medical humanities is positioned and delivered.

SHORT COMMUNICATIONS 2

D1008 **A Framework to Enhance the Research Culture of a Higher Education Health Sciences Faculty**
Lauren Coetzee, South Africa

D1009 **Impacts of All-English Medical Education on Chinese Students When Entering Clinical Clerkship in a Non-English Speaking Hospital**
Zhuang Weitao, China

D1010 **The Role of Peer Review in Continued Competency, Professional Development and Improving Clinical Practice**
Dinah Djong, Singapore

D1011 **Cost Analysis of Accreditation Reporting**
Elizabeth Smith-Trigg, USA

D1012 **Systematic Procedural Skill Teaching Towards Patient Safety**
Adisak Tantiworawit, Thailand

D1013 **Evaluation of the First Curriculum Year of the New Integrated and Interactive Curriculum at the University of Medicine and Pharmacy at Ho Chi Minh City (UMP), Vietnam**
Bao Le, Vietnam

D1014 **Applying Interactive and Explorable 360º Video Environments to Create Engaging Content for Postgraduate Medical Students**
Fung Fun Man, Singapore

D1197 **Impact of E-learning in Medical Education - An Insight on Learning Methodology**
Rohini Karunakaran, Malaysia

D1008

A FRAMEWORK TO ENHANCE THE RESEARCH CULTURE OF A HIGHER EDUCATION HEALTH SCIENCES FACULTY

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Background and Aims

This study was based on current trends within the global higher education environment - with a focus on research - due to the greater demand for social accountability and social development expected from the academic arena. As the University of the Free State is resolute in becoming a research intensive university, the generation of new knowledge and innovation is a priority. To achieve this status, it is acknowledged that the presence and prioritisation of a culture of research is necessary.

The overall aim of the study was to determine the perceptions of staff in the Faculty of Health Sciences of the University of the Free State of the existing research culture and the factors which were perceived to influence this existing research culture and thereby develop a framework to enhance this existing research culture.

Methods

Three methods were conducted: a questionnaire; nominal group discussions and validation meetings with management stakeholders. Discussions and open-ended questions were thematically analysed. Factor analysis and descriptive statistics substantiated the qualitative data.

Results

Through thematic analysis factors influencing research culture were identified, along with strengths and weaknesses and sub-cultures within the sub-populations. These factors included the context; individual factors; remuneration, recognition and rewards; policies pertaining to succession, sustainability and the job description of an academic; the research philosophy of the institution; the research process and also inter- and intra-personal interactions, among others.

It is perceived that the research culture has integrity, is competitive and values quality results. Participants explain that it is an ethical research culture which requires commitment, resilience and teamwork to produce new knowledge. Emotions most commonly described included excitement, frustration, stress and satisfaction, among others.

From these findings a preliminary framework was outlined. With additional data and experiences from validation meetings held with managerial level participants, a final framework to enhance the existing research culture was developed. The final framework addressed these factors identified as influencing research culture from the participants' perceptions and their self-reported recommendations.

Conclusion

Factors not yet recognised in literature were identified to influence the research culture. In particular, the dissonance perceived by participants of the communicated research philosophy and the lived experience of the participants in relation to research, which contributes to a perception of a lack of transparency. Furthermore, the perceived lack of research autonomy, which is contrary to other findings. These perceptions of the existent research culture require change to further develop a conducive research culture and to become a more research-intensive institution.

The final framework is a unique contribution to the field of research culture and may be utilised as a tool to enhance the research culture. Minimal literature is present on the specific topic of a research culture in a health faculty in higher education, and none specifically in the South African Health higher education context has yet been established.

IMPACTS OF ALL-ENGLISH MEDICAL EDUCATION ON CHINESE STUDENTS WHEN ENTERING CLINICAL CLERKSHIP IN A NON-ENGLISH SPEAKING HOSPITAL

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Background and Aims

English for medical purpose is an important skill for medical students from non-English speaking background to obtain advanced concepts and technology from frontier researches as well as to communicate with international counterparts. Shantou University Medical College has started all-English education (AEE) since 2007 and great progress has been achieved during the last decade. However, studies before mainly focused on the impacts of AEE on theory learning. As majority of students graduated from all-English class (AEC) will finally work in non-English speaking hospitals, this raised us a question: to what degree and in what aspects would the AEE affect the students when they practice in a non-English speaking environment?

Methods

An online questionnaire was designed to investigate the AEC students' experience of clinical communication, clinical tasks and continuing education in a Chinese-speaking setting. 88 participants (35 male, 53 female) who have completed 4-year basic medical education and entered clerkship for at least 1 year are randomly recruited from Class 2008 to Class 2013 in Shantou University Medical College. Data were entered to and processed in SPSS 20.0 software.

Results

The design of questionnaire is reasonable with a good reliability (KMO value=0.75). The responses from AEC students have a moderate to high validity (α-coefficient=0.739). The following ordinal numbers are assigned to corresponding descriptive responses: 1=Never, 2=Seldom, 3=Sometimes, 4=Often, 5=Always.

In the aspect of clinical communication, responses to the questions ("AEE _____ hinder the fluency of communication in Chinese with my patients", "AEE _____ hinder the fluency of professional communication in Chinese with colleagues who received medical education in Chinese", "I _____ use both Chinese and English medical terms in the communication with my colleagues or tutors", "I prefer to use English medical terms when the listeners can understand although I know the corresponding Chinese terms", have mean scores of 1.97, 2.48, 3.16, 3.00 respectively.

Responses to the questions about clinical tasks ("I _____ find it difficult in conducting a medical interview and writing medical records in Chinese", "I _____ find it difficult in understanding the hospital medical record in Chinese") have mean scores of 1.58, 1.43 respectively.

As for continuing education, 3 mean scores calculated from responses to each questions ("I _____ find it difficult in doing medical presentation or case report in Chinese", "I _____ find it difficult in reading the Chinese textbooks/articles with lots of unfamiliar medical terms", "I _____ find it difficult in writing research articles in Chinese") are 1.77, 2.09, 2.09 respectively.

Conclusion

All-English basic medical education is not totally free of harm for students in a non-English speaking environment. It hinders the clinical communication to a moderate degree but only has a mildly negative effect to clinical tasks and continuing education. Students from AEC may minimise the negative effects by reading both English and Chinese textbooks and extending their Chinese medical terminology.

THE ROLE OF PEER REVIEW IN CONTINUED COMPETENCY, PROFESSIONAL DEVELOPMENT AND IMPROVING CLINICAL PRACTICE

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Background and Aims

Nurses are at the forefront to deliver quality health care. To achieve this, nurses are required to maintain their professional competency throughout their careers in the increasingly complex, fast-paced and challenging clinical environment. Some countries have identified continued competency as the fundamental mean to ensure nursing professionals continue to serve the public good by providing safe, competent and quality health care. The Singapore Standards of Nursing Practice for Nurses and Midwives requires nurses to maintain the trust of the public by demonstrating that they are responsible and accountable for upholding the standards of practice, maintaining competence and fitness to practice. However, the current model of competency assessment and evaluation of clinical performance in nursing lacks consistency and effectiveness. Nurses are legally bound to maintain their professional competencies and are accountable to practise within the legal and ethical obligations of the profession. The literature review on peer review aims to address the current issues on maintaining on-going nursing competency in an acute care tertiary hospital in Singapore. It was hoped that the literature review would shed light on how the issue of nursing continued competency can be addressed through peer review, and how peer review promotes professional development and improves clinical practice.

Methods

A literature review was undertaken as an approach to answer the research questions. The concepts of clinical competence and the issues in competency assessment in nursing context was reviewed to establish the ground for discussing the role and importance of continued clinical competence in nursing practice. The issues in nursing competency assessment including the framework for continued competency assessment in nursing formed the basis for discussion on the issues on measuring nurses' continued professional competence.

Results

The literature review found that peer review plays a pivotal role in nursing continued competency, promotes professional development and improving the quality of nursing practice. Peer review has been recognised as an important mechanism for maintaining the standards of nursing practice and improving nursing care, with the aim to enhance the quality and safety of nursing practice, promote role actualisation and practice advancement. On the issue concerning continued competency, peer review is used to safeguard the public by ensuring nursing professionals maintain their continued competency in a systematic and an on-going basis. Besides maintaining nurses' professional competency, peer review is recognised for its role in promoting professional development and professional accountability of nursing staff leading to improved nursing practice and positive patient outcomes.

Conclusion

The analysis of the findings suggest that it is essential for every healthcare institution to have in placed a continual competency programme for nurses to promote professional growth and advance the nursing profession. Peer review can be used as part of continued competency programme and should be conducted on an on-going basis to ensure nurses are up-to-date and competent to provide safe and quality care to patients in a complex and changing healthcare environment. Peer review can also be used as a mechanism to promote professional development and enhance patient safety by improving the quality of clinical nursing practice

COST ANALYSIS OF ACCREDITATION REPORTING

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Background and Aims

WCUCOM is a private osteopathic medical school in Hattiesburg, MS with a class of 100. Since its inception in 2010, all departments took on individual roles of providing data for accreditation reports, which has become time consuming and costly. WCUCOM Assessment Office undertook an initiative to find a centralised cloud based solution for effective data management and accreditation reporting. A pre and post cost analysis was conducted to evaluate the effectiveness of the new system compared to the old system.

Methods

All areas of data management and warehousing at the COM was integrated into a centralised data management program. The areas included: Student Affairs (AACOM Report), Preclinical (CANVAS), Clinical Rotations (EValue), and Assessment (NBOME). ProgressIQ, a cloud-based, centralised database with permissions was utilised as the central repository for the data. With the purchase of the new system, WCUCOM Assessment Office undertook a cost analysis of 3 accreditation reports to determine the utility of ProgressIQ.

ProgressIQ included a one-time startup cost ~$60,000.00 based on calculations of software and administrative transfer of all WCUCOM data from the warehouse.

Results

Throughout the 16-17 academic year, WCUCOM conducted a cost analysis of 3 accreditation reports (COCA, AACOM, Southern Association of College and Schools). With the use of the ProgressIQ, WCUCOM saved ~$10,000.00/report, an annual savings of ~$30,000.00.

Conclusion

The break-even point for this investment is projected at 2 years. At the same time, the system allows for additional features such as: real-time data monitoring and student status tracking. We strongly recommend moving to a cloud-based, centralised database.

D1012

SYSTEMATIC PROCEDURAL SKILL TEACHING TOWARDS PATIENT SAFETY

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Background and Aims

Central venous catheter (CVC) insertion is the procedure which may cause morbidity and mortality to patients. Our department experienced the high complication from this procedure including bleeding and pneumothorax. Patient safety is the most concern. The department has developed the systematic approach in teaching this procedural skill, aims towards patient safety.

Methods

In the past, the CVC insertion was not systematic teaching. We had changed the model of apprenticeship teaching by senior residents to systematic approach. First step, residents needed to self-study followed by video demonstration. This step aimed the learner to self-assessment, review the basic concepts, indication-contraindication and complication. Second step was the procedural workshop. Group of the residents attended the workshop in clinical skill centre. Experienced teachers demonstrated, explained and demonstrated the procedure with manikin models step by step. Group based learning of residents was done to clarify steps, confirm key parts, perform the procedure, followed by self-practice with manikins. The last step was real practice under supervision. The residents practiced CVC insertion with patients under supervision. Teachers asked students to review the steps and remind possible complications, direct observed of learners, and gave constructive feedback to learners.

Results

Residents achieved the goal of paradigm changing in the procedural skill teaching. They experienced more knowledge, self-competence and skill improvement from this teaching method. They did not learn only the procedural skills, but also the patient safety concept. Moreover, patient safety was the most concerned. The complication rate has decreased after implementing this teaching method in our department.

The concept of "See One, Do One, Teach One" for procedural skills should be changed and discarded. We demonstrate the effective procedural skill teaching in CVC insertion. Various teaching methods can be used to promote effective teaching and appropriate with all learner styles. The teachers can teach the knowledge and skill along with guide the learners to promote life-long learning and implement patient safety concept. Constructive feedback is also the key success in procedural skill teaching.

Conclusion

Effective systematic teaching method not only promotes learner success but also results in patient safety.

D1013

EVALUATION OF THE FIRST CURRICULUM YEAR OF THE NEW INTEGRATED AND INTERACTIVE CURRICULUM AT THE UNIVERSITY OF MEDICINE AND PHARMACY AT HO CHI MINH CITY (UMP), VIETNAM

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Background and Aims

The University of Medicine and Pharmacy at Ho Chi Minh City (UMP), Vietnam launched a new integrated and interactive curriculum of medical education in 2016. This study aims at evaluating the new curriculum by determining whether the new curriculum successfully affected the teaching and learning activities in the first curriculum year and if so, how.

Methods

We conducted a one-year single-centre observational prospective cohort study using mixed methods and a historical control as the comparison. We used online surveys and focus groups to collect feedback from the UMP's faculty and students. We applied a modified Bloom's taxonomy to evaluate the cognitive levels of test questions. We analysed the students' summative scores.

Results

Quantitatively, 89% of the faculty and students indicated that the teaching content was integrated across basic sciences and with clinical applications. All faculty and 80% of the students rated that the instructional methods were interactive. 77% of the students and 59% of faculty answered that the students prepared pre-reading materials. 85% of the students and 75% of faculty assessed that the students interacted with their peers. Only 41% of the students and 61% of faculty rated that the students contributed in class. 84% of the faculty and students responded that the test questions integrated basic sciences

and clinical applications. 100% questions reflected the learning objectives. 55% of the students and 63% of faculty indicated that students felt confident in answering to questions integrated among basic sciences. 51% of students and 82% of faculty rated that students felt confident in answering questions integrated between basic sciences and clinical applications. The students correctly responded to MCQ items at high cognitive levels comparably to those at low levels (65.5% vs. 66%, $p > 0.05$). Compared to the traditional curriculum, the new curriculum was more integrated across basic sciences (84% vs. 72%, $p < 0.001$) and with clinical applications (89% vs. 78%, $p < 0.001$). The faculty provided pre-reading materials more frequently (84% vs. 72%, $p < 0.001$), encouraged students to contribute ideas more often (90% vs. 50%, $p < 0.001$), and gave more test items at high cognitive levels (21.5% vs. 12.3%, $p = 0.047$). Qualitatively, focus group discussion illustrated that integrated content and interactive methods promoted learning activities, however, mismatches between teaching burden and allocated time, low faculty-student ratio, lack in material resources were barriers to the insertion of integrated content and the usage of interactive instructional methods. The unreadiness in giving and receiving genuine feedback among faculty reduced the quality of integrated content while the oriental hierachical collective culture decreased the faculty-student interaction.

Conclusion

The new curriculum at UMP has achieved most of its stated objectives. The data provide evidence of integrated teaching content, interactive instructional methods, valid and reliable assessment instruments. Students are committed to self-learning, interacted effectively with peers, and achieved integrated high cognitive knowledge.

D1014

APPLYING INTERACTIVE AND EXPLORABLE 360° VIDEO ENVIRONMENTS TO CREATE ENGAGING CONTENT FOR POSTGRADUATE MEDICAL STUDENTS

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Background and Aims

We explore technologies which could improve the learning experience for postgraduate medical students. The primary aim is to facilitate the students' transition from the pre-clinical year to the clinical year, the process of which tends to pose significant amount of anxiety and stress for the students as they initially struggle with the complex clinical setting that appears different from the well-defined boundaries of medical textbooks. However, due to the constraints of limited resources, patient confidentiality, and infection control, it is not feasible to allow students to enter clinical grounds routinely for familiarisation. By bringing the real clinical settings to the students via immersive 360° videos, the aforementioned limitations can be overcome and students are able to familiarise themselves with what to expect when they actually enter the actual clinical settings, and thus be better prepared to apply their knowledge on real-life patients subsequently.

The secondary aim is to improve the student engagement, enjoyment and retention of knowledge through creating interactive, explorable 360° environments of real-world scenarios students would usually only encounter later on during their clinical training

Methods

The project comprises of interactive 360° environment filmed in a simulated Operation Theatre (OT) and one Intensive Care Unit (ICU). The environment was created with the web tool uptale (uptale.io), which allows to create interactive 360° "experiences". To film the "backgrounds" (360° videos and pictures) we used several 360° cameras from 2 manufacturers: the Theta S by Ricoh, a budget camera with FullHD resolution, and the Fusion by GoPro, a semi-professional camera with 5.2K resolution aimed at sports professionals.

Results

The result is a fully explorable, educational experience of a simulated operation in an OT and an emergency in an ICU. When first opening the experience, the student can choose to explore the ICU or OT, after reading short, descriptive texts of what each scene entails. The OT scene allows the learner to experience a (simulated) operation of laparoscopic cholecystectomy with the following steps of the operation shown: induction of anesthesia, sterile field preparation, timeout and actual surgical procedure. The student can explore the scene from different views, creating the experience of moving around the room to "get a better view" of the scene.

In the ICU unit, the student witnesses a (simulated) patient being discovered by a nurse to exhibit abnormal vital signs and calling a doctor for help. The student can, again from different angles in the room, observe first-hand how the healthcare providers respond to medical emergencies in ICU, something that may not be frequently encountered by students in the real clinical setting but for which one must always be prepared for.

Conclusion

360° videos with interactive and explorable elements are value-add teaching tools that greatly enhance medical students' learning experience and overcome existing constraints to allow pre-clinical medical students to better transition into their clinical year. This application of technologies potentially improves the quality of medical education in training medical students to become better clinicians for the future.

IMPACT OF E-LEARNING IN MEDICAL EDUCATION - AN INSIGHT ON LEARNING METHODOLOGY

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Background and Aims

E-learning has become a significant part of medical education and is concerned with the educational uses of technology for healthcare teaching and learning. E-learning is the use of virtual methods like online learning, computer-assisted methods or internet-based teaching-learning methodologies. Technology-enhanced learning is a potential source for academic development.

Methods

Excerpts were picked from research studies to summarise the effectiveness and efficiency of e-learning. Studies show that the faculty, administrators, and learners find that e-learning enhances teaching and learning. In order to have an effective e-learning in medical education, needs assessments should be planned. The use of e-learning accessibility for curriculum development, assessment and enhancement of life-long learning must be developed and standardised.

Results

Our current medical education needs to develop higher standards to promote compatibility and usability of resources and the use of e-learning materials to enhance teaching-learning methodologies. Assessment through e-learning is also an essential component in the evaluation of medical school curricula. E-learning also promotes faculty development and enhances the quality and effectiveness.

Conclusion

E-learning is the use of online resources to deliver a wide range of learning methodologies that develops the learner's knowledge, skills and attitude. Research studies suggest the effectiveness and acceptance of e-learning within the medical education. With technological advancements, the future medical education offers the promise of high-fidelity, high-speed simulations and personalised instruction using both adaptive and collaborative learning. E-learning integration in medical education provides excellence in design, delivery and assessment.

SHORT COMMUNICATIONS 3

D1015   **Using Team-Based Learning to Engage Nursing Students in Learning Legal and Ethical Issues in Psychiatry**
Wandee Suttharangsee, Thailand

D1016   **Medical Students' Experience Based on MMPI-2 Profile Change; A Mixed-Method Sequential Explanatory Study**
Kyung Hye Park, South Korea

D1017   **Redesigning Feedback for Improved Learner Reflection and Response**
Jason Chan, Singapore

D1018   **Learning Assessment of Conducting Standardise Medication Dispensing Procedure by E-learning Courses**
Hung-Mei Chen, Taiwan

D1019   **Written Reflection for Residents- Yay or Nay? Understanding the Perceptions of Residents and Faculty Towards Written Reflections**
Nicholas Ng Beng Hui, Singapore

D1020   **Readiness of Pre-Service Teachers in Preparing Potential Future Medical Students for Technology-Based Medical Education**
Tushani Ranawaka, Sri Lanka

D1021   **The Utility of Video-Recording and a Competency Checklist for Off-site Assessment During Ultrasound-Guided Regional Anaesthesia Training**
Wong Ming Hiu, Singapore

D1015

USING TEAM-BASED LEARNING TO ENGAGE NURSING STUDENTS IN LEARNING LEGAL AND ETHICAL ISSUES IN PSYCHIATRY

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Background and Aims

In general, learning in psychiatric nursing class is quite abstract. Nursing students always complain that they cannot imagine or figure how to deal with patients. Many teachers usually use lecture-based classroom with periodic testing. However, there are challenges for changing a traditional approach to motivate students in critical thinking as well as applying theory to practice. Various active learning strategies are needed in the classroom to shift paradigm from both students and teachers. Team-based learning (TBL) is one teaching strategy that should overcome this challenge. It was firstly described in1982 by Michaelsen et al. They had the belief that team work and cohesion should promote student learning. The aim of this study is to demonstrate how TBL can enhance nursing students' engagement and their learning, particularly critical thinking and team work in applying the knowledge concepts in practice with legal and ethical issues for psychiatry class.

Methods

The study was conducted in the topic of "Legal and ethical issues in caring for psychiatric persons" for 2nd year nursing students of the academic year 2018 at Faculty of Nursing, Prince of Songkla University. The lesson plan was designed for applying team-based learning process including team formation, student accountability, immediate feedback, and team assignments. The uncontrolled before and after design was used to determine the involvement and satisfaction of students. The dichotomous-type questionnaire was used to explore student's opinion. Focus group interview was also used. The proposal was approved for ethical concern by the Committee for Social and Behavioural Sciences Institutional Review Board, Prince of Songkla University (SBSIRB-PSU).

Results

There were 166 nursing students joined the class. The response rate for questionnaire was 90.36% (150 out of 166). Ninety-seven percent of them were satisfied with the learning process. All of them agreed that they had actively participated in learning activities, had adequate opportunities to share opinions within group, other team members have generally contributed in discussion, learning atmosphere is enjoyable and non-threatening, learning activities help them better at applying and more understanding knowledge, and facilitators enhance their critical thinking. About 73% had prepared as assigned before coming to class. Information from focus-group interview (20 students) and non-participants observation from 6 external observers were congruent with the results from questionnaire.

Conclusion

TBL can foster nursing students' active participation in learning process. Critical thinking and team work can be enhanced through this TBL process. However, more appropriate time allocation and team formation are needed for the next class.

MEDICAL STUDENTS' EXPERIENCE BASED ON MMPI-2 PROFILE CHANGE; A MIXED-METHOD SEQUENTIAL EXPLANATORY STUDY

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Background and Aims

We aimed to longitudinally measure the mental health condition of medical students, and to understand the actual experience of emotional changes, how to adapt from the experience, and how their identity is formed.

Methods

Mixed-methods sequential explanatory design was chosen for combining quantitative and qualitative data. Paired t-test was conducted to investigate change of Minnesota Multiphasic Personality Inventory (MMPI) -2 profiles from the first year in 2012 to the third year in 2014. Twelve medical students had interview when they were the fifth year finishing one-year clinical clerkship in 2016. Their opinions and reasons of emotional changes in school life, and changes of self during school life and its causes were asked. For interview analysis, phenomenological approach suggested by Colaizzi was applied.

Results

Paired comparison showed that D (Depression) and Pt (Psychasthenia) were increased as clinical scales of MMPI. The interviewees had psychological and emotional changes in the medical course including exams, disappointment about oneself, competition, perception of change in oneself, their parents' expectations, and interpersonal relations. They learned how to adjust to the medical course by self-control of studies and daily life, perceiving one's state and obtaining self-acceptance, and breaking free from competition and obsession with grades. In addition, they found internal and external powers to endure. Finally, they had self-efficacy and identity as a medical student, but still had stress about human relations in clinical training and difficulties in balancing studies and friends, dating, and extracurricular activities.

Conclusion

As medical students started the medical course, their self-evaluation and compulsive attitude increased due to the burden of exams and studies. They grow up learning self-control and introspection, and looking for ways to adapt from their own internal and external sources. Understanding this growth process of medical students will help student support in medical schools.

REDESIGNING FEEDBACK FOR IMPROVED LEARNER REFLECTION AND RESPONSE

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Background and Aims

Current evaluations of training events usually focus on Kirkpatrick level 1 (learner satisfaction) and 2 (Knowledge acquisition) training objectives. In our institution, the components of an evaluation often consist of presentation methodology, speaker's creativity and ability to make a subject relevant. However, grading of these components in our current evaluation is often skewed positively, thus unable to distinguish the effectiveness of a speaker. Student evaluation of teaching is also known to be influenced by irrelevant factors such as the gender, ethnicity, or attractiveness of the instructor. Qualitative feedback on their learning points and the teaching session was also scarce. This contributes to a lack of quality data to improve teaching, appraisals and accountability. Hence, the primary aim of this improvement project was to redesign our evaluation form to focus more on Kirkpatrick level 2 evaluations through increased qualitative feedback on what they learnt and could apply. The secondary aim is to improve the response rates of qualitative feedback. The third aim was to improve collection of data for program evaluation and learner reflection.

Methods

We applied quality improvement methodology in improving the feedback forms over Jan to May 2018. An analysis was performed for the current feedback form and the various components were mapped to respective Kirkpatrick levels. After a How-How analysis, a new feedback form was created. Results from the feedback forms were reviewed every fortnight and modified to fit the study objectives.

Results

Analysis of our current feedback forms showed that out of 7 items, 2 quantitative items focused on Kirkpatrick 1 evaluations, 4 quantitative items focused on trainer effectiveness and 1 qualitative field was provided for "any other comment". There was no provision of items that evaluate Kirkpatrick 2 and 3 levels. Prior to intervention, the average response rate was 65.2%, average learner satisfaction score was 4.29 out of 5, average trainer rating was 4.34 out of 5, and only 5.13% of respondents provided qualitative feedback. The final iteration of the new feedback form consisted of 5 items, of which 2 items were quantitative (1 item on Kirkpatrick 1 evaluation and another on trainer effectiveness), rated on a 5-point Likert scale and 3 items were qualitative. The qualitative items consist of knowledge learnt, new applications, and comments about the teaching session. With this new feedback form, the average response rate was 51.5%, average learner satisfaction score for level 1 evaluation was 4.09, and average trainer rating was 4.07. 92% of learners wrote qualitative comments for their reflections on knowledge as a level 2 evaluation. 57% wrote on an aspect they would apply. 42% of learners also provided comments on other additional aspects of the training. Learner feedback was also automatically sent back to them to include in their learning portfolio, and anonymised summarised feedback was sent to trainers and learners.

Conclusion

The new form was successful in increasing Kirkpatrick level 2 items, and improved the response rates of qualitative feedback. It also provided a more effective way of communicating feedback to trainers and learners.

LEARNING ASSESSMENT OF CONDUCTING STANDARDISE MEDICATION DISPENSING PROCEDURE BY E-LEARNING COURSES

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Background and Aims

Medication dispensing training is essential among trainees and new employee of pharmacist. We have developed series of online course to assist them reaching proficient level more rapidly. The courses divided into basic knowledge of dispensing protocol, which included storage and labeling, discriminating medication with multiple dose and form, and advance knowledge of standard dispensing operation among outpatient and inpatient setting. The contents were based on the standard operating procedure of pharmacy dispensing task which formulated by expert. The online courses demonstrate its superiority as compare to traditional lecture course. It could emphasis the complicated part by combine the lecture with movie clip of practical operation. Besides, the learner could rewind the course and repeat until they could figure out the difficult part.

Methods

First, the course set pharmacy trainee and new employee as target learners. Then, 5 courses were developed to fulfill the 5 learning goals, which were:

1. To understand the important of standard dispensing operation procedure.

2. To recognise the storage labeling and symbolic graphics.

3. To recognise the difference of medicine scripts and bags between outpatient and inpatient department.

4. To understand the definition of high-alert medication, multiple units dose, multiple dosage regimen and differentiate medication with similar name or appearance.

5. To recognise out-patient and in-patient standard dispensing operation procedure. The courses were assigned to different instructor with technical assist from digital engineering team. The contents and examination question will be review and discuss by peers. The final products was tested by senior employee before conducted to the learners.

Results

Totally 30 learners (19 trainees and 11 new employees) were enrolled into the courses between 2015 and 2017. They were investigated by using questionnaire with Likert 5 points scale. The questionnaire included 4 sections, which were course design, dubbing and narration, contents, and teaching material. 90% of the learners were satisfy with overall of the courses. There were 96.66% of the learners were satisfying with the content section, which represent the course design meets their demand. All learners have pass the multiple choice examination after they completed the e-Learning courses. In addition, all learners could clearly distinguish the difference between in-patient and out-patient dispensing procedure.

Conclusion

The e-Learning courses will be continue access by the learners for many years. Thus, the instructor will spend more time to design the course and optimised it with pictures, video clips, mnemonic phrase and interactive questionnaire. The products will be review and revised by multiple instructors before come into final product.

Most of the learners agreed and satisfied with the course conducted by e-learning. However, some learners complained that the pace was relative slow and too much pleonasm. Thus, we plan to modify the redundant part of the courses during the next update. Besides, behaviour assessment in workplace was mandatory after they have completed the courses.

WRITTEN REFLECTION FOR RESIDENTS- YAY OR NAY? UNDERSTANDING THE PERCEPTIONS OF RESIDENTS AND FACULTY TOWARDS WRITTEN REFLECTIONS

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Background and Aims

Written reflections are a formative requirement by ACGME-I for residents in our program. Residents are expected to submit 2 written reflections annually which will be assessed by core faculty members (CFM). Written instructions and examples are provided to the residents for the reflective writing. Over the years, feedback from residents on written reflections have been mixed, with many finding this a challenge to do. We aimed to understand the perception of residents and CFM on written reflections in our program.

Methods

Questionnaire survey for all paediatric residents (n=52) and CFM (n=14) was carried out, with separate surveys for residents and CFM. Each survey had 10 multiple-choice questions with an option for open-ended responses for each question for residents, we surveyed their understanding of the written reflections expected of them, how the reflections have benefitted them (or not), challenges faced while writing reflections and whether they felt formal training should be provided for CFM, we looked at their perception of the quality of written reflections by residents, whether there was any association between quality of reflections and daily clinical performance, their perceived challenges that residents face while writing reflections and their style of debriefing these written reflections.

Results

Forty-six (88.4%) residents and 11 (84.6%) CFM responded to our survey.

Twenty-seven (58.7%) residents found the written reflections to be beneficial for them, mainly in providing closure for a particular encounter and promoting professional development. Thirteen (68.4%) of the 19 residents who did not find the reflections beneficial did not have a good understanding of the expectations of a written reflection. The main challenges faced by residents in writing their reflections include emotional vulnerability (n=26, 56.5%) and self-perceived lack of writing skills (n=15, 32.6%). Seventeen residents (37%) found the debrief by CFM beneficial to their process of reflection, particularly when done in-person. Nineteen (41.3%) residents felt that formal training on effective reflective writing should be provided.

Nine (81.8%) CFM felt that residents who wrote better reflections were more committed to self-learning while 6 (54.6%) felt that residents who wrote better reflections performed better in daily clinical practice. Perceived reasons by CFM for unsatisfactory written reflections include the lack of formal training (n=10, 91.0%) and poor resident motivation (n= 7, 63.6%). Four (36.4%) CFM would debrief the written reflections via a face-to-face meeting with the resident while the rest would do this in written form. Ten (91.0%) CFM agreed that they should receive formal training on debriefing written reflections in order to make this more beneficial for residents.

Conclusion

While a significant proportion of residents have found written reflection to be beneficial, many still struggle with this. A poor understanding of the requirements of written reflection, lack of formal training in writing reflections and suboptimal CFM debrief are likely contributing factors. Based on these insights, our program has instituted formal training workshops for residents and CFM on writing and debriefing reflections respectively.

READINESS OF PRE-SERVICE TEACHERS IN PREPARING POTENTIAL FUTURE MEDICAL STUDENTS FOR TECHNOLOGY-BASED MEDICAL EDUCATION

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Background and Aims

Technology-based teaching (TBT) means introducing new pedagogical methods or developing existing ones using Information and Communication Technology (ICT) with the aid of modern electronic media in order to fulfill the educational requirements. Currently undergraduate medical education is rapidly improving with the trend of using computer assisted learning in the areas of performance at examinations, problem solving skills and student satisfaction. The medical field is also now becoming highly technology dependent. So it is important for the future medical professionals; medical students to have their primary and secondary education at schools in a technological background so that they are ready for technology based university education by the time they enter the medical college. Therefore the school teachers need to adapt to the changes which will make the potential future medical students ready for upcoming changes . So the teachers should continuously develop themselves, most importantly they should be aware of this need throughout their pre-service teacher training.

So the readiness for TBT among pre-service teachers is important for the effective integration of technology into teaching and learning. But assessing the readiness for TBT among "pre-service" teachers who will be becoming future educators is an important area which was over looked. In this study, the level of readiness was assessed under three main domains technological competency (TC), pedagogical competency (PC) and technological pedagogical competency (TPC) which were developed based on the TPACK framework developed by Mishra & Koehler (2006).

Objective:
To explore the level of readiness for technology based teaching among undergraduates of Faculty of Education, University of Colombo, Sri Lanka.

Methods

Descriptive cross sectional study with an analytical part was done at the Faculty of Education, University of Colombo, Sri Lanka with 196 pre-service teachers from the two final academic years as the study population. Data was collected through a self-administered questionnaire.

Results

The study shows that 40.3%, 40.67% and 41.4% were with high level of readiness for TBT related to TC, PC and TPC respectively. Considering the areas of office applications, communication applications, instructional designing tools, modern technological concepts and positive attitudes, the participants performances significantly vary.

There was no statistically significant difference between the two academic years in the readiness for TBT.

This study shows that there is a high linear correlation between the level of readiness for TBT related to TC and TPC (correlation coefficient=0.78). However the correlation between PC and TPC was moderately linear (correlation coefficient=0.41).

Conclusion

The level of readiness for TBT among pre-service teachers of Faculty of Education, University of Colombo is satisfactory related to all three domains considered. However there are certain areas that should be improved. By uplifting competency in TBT of the educators starting from their pre-service training would result in producing teachers equipped with readiness for preparing students with the competency to use technology in their higher education by the time they enter the medical college. From this the medical students will benefit since they can adapt to the trend of TBT in medical education in Sri Lanka.

Reference

Mishra, P., & Koehler, M.J. (2006) 'Technological pedagogical content knowledge: A framework for integrating technology in teachers' knowledge'. Teachers College Record, 108(6), 1017–1054.

D1021

THE UTILITY OF VIDEO-RECORDING AND A COMPETENCY CHECKLIST FOR OFF-SITE ASSESSMENT DURING ULTRASOUND-GUIDED REGIONAL ANAESTHESIA TRAINING

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Background and Aims

Accreditation Council for Graduate Medical Education (ACGME) recommends minimum number of peripheral nerve blocks anaesthesia residents should perform, to ensure sufficient quantity of experience accumulated during their training. Recently, more emphasis has been given to the quality of competency assessment and constructive feedback in regional anaesthesia training. Multiple validated task specific checklists and global rating scale assessment tools have been devised to test the variety of skills related to Ultrasound Guided Regional Anaesthesia (UGRA).

To date, the use of off-site assessment for UGRA has yet to be evaluated locally. The primary aim of the study was to evaluate the reliability of an off-site assessment performed based on a recorded video compared to the traditional onsite assessment using a validated checklist and the Global Rating Scale (GRS) assessment tool.

Methods

With the research ethical board approval, thirty anaesthesia residents were recruited to perform a video recorded, single-target nerve block procedure under ultrasound guidance. The traditional on-site assessment using a combined validated checklist and GRS was completed by an assessor. The recorded videos were then viewed and scored by two independent assessors using the same assessment tool, blinded to the identity of residents. Two-way random Intraclass Correlation Coefficient (ICC) analysis with absolute agreement was performed. An ICC of ≥0.5 denotes at least moderate reliability of the assessment. Block success, pain scores of patients in the immediate post-operative period and patient satisfaction were collected.

Results

There was moderate reliability for the checklist scores between the two video assessors (ICC=0.587, p=0.010), on-site and average video scores (ICC=0.715, p<0.001), on-site and first video score (ICC=0.598, p=0.009) and on-site and second video score (ICC=0.689, p=0.001). Although reliability was found to be poor for the GRS between the two video assessors (ICC=0.436, p=0.018), it was moderate for onsite and first video assessor (ICC=0.573, p<0.001) and second video assessor (ICC=0.649, p=0.001). 80% of patients had no immediate postoperative pain, block success was 96.7% and satisfaction rate was 90%.

Conclusion

Our results show that video assessment for residency training in UGRA has moderate reliability when compared to traditional on-site assessment. However, there are added benefits of the recorded video being reviewed, repeated and specific deficiency in the procedure feedback directly to the resident. In conclusion, the off-site video assessment of residents is worth exploring in regional anaesthesia training.

SHORT COMMUNICATIONS 4

D1022 **How Medical Students Begin to Solve Clinical Problems**
Adrian Kee, Singapore

D1023 **Strategies to Enhance Consolidation of Practice for Graduating Nursing Students**
Zhao Wanzhen, Singapore

D1024 **Reflection on Early Clinical Exposure-Report from One Medical Student**
Ding-Chun Tseng, Taiwan

D1025 **Can Attention to Diagnostic Pitfalls Improve Clinical Problem Solving?**
Andrew Li, Singapore

D1026 **Student Academic Performance Factors Affecting Matching into First-Choice Residency and Competitive Specialties**
Scott Helf, USA

D1027 **The Significance of Abdominal Diagnosis with Kampo Medicine Techniques for Undergraduate Medical Education in Japan**
Mosaburo Kainuma, Japan

D1028 **MD Portfolio: Transition and Challenges**
Zarrin Siddiqui, Australia

D1198 **What are the Influencing Factors for Adopting Technology Enhanced Learning in the Medical Schools of Punjab, Pakistan?**
Shazia Iqbal, Saudi Arabia

D1022

HOW MEDICAL STUDENTS BEGIN TO SOLVE CLINICAL PROBLEMS

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Background and Aims

To evaluate how medical students begin to learn and practice clinical reasoning and examine the types of methods utilised.

Methods

As an introduction to clinical problem solving, in their first clerkship year, third-year medical students were given a short lecture on the principles of clinical reasoning and encouraged to do case-based practice during their clinical postings. Upon completion of the year, each student was sent a 5-question survey via email link. These questions were designed to enquire how they learnt diagnostic reasoning methods, which methods they were using, if they practiced it and if they knew what Bayes' Theorem was for. They were also asked to describe the method they were using in free text. This was analysed by a quantifying qualitative data technique.

Results

Of the three hundred students sampled, sixty-one (20%) responded. When asked during which rotation(s) they were introduced to clinical reasoning methods, (they were allowed to choose more than 1 option) they chose Adult Medicine (72%), Paediatric Medicine (62%), Surgical rotations (49%), through own reading (49%), Family Medicine (33%) and via a classmate (26%). The types of clinical reasoning methods they reported using most regularly were diagnostic schema (82%), compare-and-contrast key features (59%), case-based exemplars (43%), checklists (30%) and decision-support systems (8%). Fifty-six students (92%) indicated that they practiced clinical reasoning occasionally to all the time. The most common descriptors they used were "approaches", "key features" and "algorithms". When asked about Bayes' Theorem, half (52%) of respondents were able to select the most appropriate setting for its application.

Conclusion

This study revealed several insights into how medical students begin to learn and develop their clinical reasoning skills. They practiced clinical reasoning by using a variety of techniques, predominantly via diagnostic schema, compare-and-contrast key features and case-based exemplars. This suggests that students prefer methods which employ memory and recall as opposed to open-ended critical thinking. Additionally, the more popular methods described are also the less case-content specific ones, a reflection of weak illness script development. Moreover, their methods allow for little causal-mechanistic correlations with basic science knowledge. Thus, whilst students report employing clinical reasoning methods frequently, there may not be a very robust build-up of pathophysiological knowledge and illness scripts.

STRATEGIES TO ENHANCE CONSOLIDATION OF PRACTICE FOR GRADUATING NURSING STUDENTS

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Background and Aims

Consolidation of clinical practice is extremely important for final year nursing students as they are required to translate theory to practice and prepared to be registered nurse. However, many studies report that graduating nurses often experience anxiety and dissatisfaction as a result of incompetency, unfriendly learning environment, and ineffective preceptorship. This study aims to find out if the structured learning activities enhance consolidation of practice for graduating nurses.

Methods

All final year nursing diploma students have to go through twelve-week of Pre-Registration Consolidation Practice (PRCP) before they graduate. A training package incorporating various structured learning activities were developed, and a total of 160 students were enrolled from December 2016 to Feb 2017. These activities include: Clinical Incidence Sharing (CIS), Electronic-Clinical System Workshop (ECSW), Fall Prevention Simulation Practicum (FPSP), Inter-Professional Shadowing Program (IPSP), and Preceptor-Student Feedback Session (PSFS). Chi Chi-Square Test was done to compare homogeneity of sample and independent T-test was used to determine the statistical significance.

Results

There is no statistical difference between the intervention group (n=160, mean satisfaction score=3.63, Dec 2016) and the controlled group (n=219, mean satisfaction score=3.63, Dec 2015) for the mean overall training satisfaction score. Both groups have the same proportion of samples (proportion of students from different institutions). However, close to 98% of students responded favourably for CIS and ECSW, 91.2% for PSFS and 87% for FPSP. In comparison, IPSP has the least positive response (85%).

Conclusion

Although there is no significant improvement observed in the overall satisfaction score, students appreciate the learning package and place greater value to those activities which enhanced their practice. Students rank PSFS higher than IPSP as it allowed constructive feedback for improvement. The training package enhanced consolidation of practice and has since incorporated as part of the learning activities for PRCP students.

REFLECTION ON EARLY CLINICAL EXPOSURE-REPORT FROM ONE MEDICAL STUDENT

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Background and Aims

An elective course on early clinical exposure (ECE) was designed and conducted for first-year medical students to explore how to become a physician, their clinical performance and the relevance of studying science-based medical knowledge. The aim of this study was to report one medical student's narrative reflective writing on this course.

Methods

Eight out-patient clinical observations in two-month intervals were scheduled for one medical student. Debriefing with the clinical teacher after every 3 hours of clinical observation, and narrative writing through the 5Rs framework was conducted after the whole ECE course.

Results

The observation and issues learned (Reporting)
Every first encounter between patient and physician would be building rapport, through the identification of patients and/or casual conversation for a while. The communication skills varied, and every child was treated as an independent person, and the long-term doctor-patient relationship was frequently anchored by the communication process.

Inquiring medical history commenced soon after the identification of chief complaint or problems presented. Disease pattern recognition through LQQOPERA (Location/ Quality/ Quantity/ Onset mode/ Precipitating factors/ Exacerbating factors/ Relieving factors/ Associated symptoms), hypotheticodeductive reasoning process leads to a differential diagnosis and focused physical examination or further laboratory investigations. Treatment guidelines, patient educational content, and generation of follow up plans, the role of other professions in clinical care and how the government insurance system affect clinical practice were learned.

The cognitive and reactions (Responding)

The experiences of ECE was plentiful and full of life stories from different families. I was excited when the diagnosis was correct and patients were compliant; frustrated when encountering a patient an extremely rare disorder for diagnosis and/or a disorder without an effective treatment plan; shocked by how incompetent parents make wrong decisions and create environments unfriendly for the development of their children; and sympathised with the lack of health literacy of general population resulting in a the huge patient-physician gap which make the educational process more challenging and less rewarding.

The relevant issues identified (Relating)

The path to professional growth was discussed around the following themes: life-long/self-directed learning skills needed for rapid updating of medical knowledge, tips for augmenting clinical skills, feeling how privileged listening to every unique life story, the frequent use database/website, the role of clinical research, the importance of medical education and inheritance; the connections with different society in achieving personal growth and development; family/daily life; time management; holding personal interest/value; and the way to maintain health in a burdened lifestyle of a physician.

The analysing and deconstructing (Reasoning)

The ECE not only generated an awareness of self-learning status which shifts "pedagogy" toward "andragogy" but also help build the future carrier paths through dealing with patients' problem. The next step/action plan (Reconstruction) To deal with patients' problems, medical students should generate the competencies of applying medical knowledge, providing holistic patient care through inter-professional collaboration, be familiar with health care system, and acquire good interpersonal and communication skills. Reflective practice and the commitment toward medicine and personal growth should be the important focus. Promoting health literacy and deliver preventive medical care are also mandatory.

Conclusion

Debriefing and reflective writing facilitate the medical student's learning from the role modelling of physician and the patients in outpatient clinical settings, while actualising the quotes of "hospital as a college" and "patient is our best teacher".

D1025

CAN ATTENTION TO DIAGNOSTIC PITFALLS IMPROVE CLINICAL PROBLEM SOLVING

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Background and Aims

Previous interventions to improve diagnostic problem solving in medical residents have been disappointing. In this study we evaluated the impact of a novel "diagnostic pitfalls" approach on premature closure and situational awareness during routine bedside rounds.

Methods

We performed a before versus after study over 12 weeks among the internal medicine residents in the Division of Respiratory and Critical Care Medicine in a tertiary Singapore hospital. We designed a "diagnostic pitfalls" template consisting of the resident's numerated diagnoses followed by a list of pitfalls using the sub-headings: 'Counter diagnosis', 'Things that do not fit' and 'Red flags' for the electronic health records (EHR). After a 4-week baseline assessment, residents were briefed and tasked to utilise this template over the next 8-weeks in their EHR entries, where appropriate, for all new admissions and to discuss these pitfall points during bedside rounds. The main outcomes were documentation of the subheadings in the EHR and diagnostic accuracy defined as concordance between initial versus final diagnosis noted on the discharge summary. We also elicited feedback from the residents and attending physicians.

Results

51 cases were admitted during baseline assessment. The 'Primary diagnosis' was documented in 98%, 'Counter diagnosis' in 51%, 'Things that do not fit' in 24% and 'Red flags' in 24%. 158 cases were admitted during the intervention group. A greater proportion of cases had documentation of 'Things that don't fit' (49% vs 24% [p=0.001]) and 'Red flags' (54% vs 24% [p<0.001]) in the intervention group. There was no difference in documentation of 'Counter diagnosis' (47% vs 51% [p=0.75]). There was also no difference in diagnostic accuracy between the intervention and control groups (85% vs 78% [p=0.29]). However, at least 10 cases with discordant diagnoses had clues pointing them to alternative diagnosis after such documentation.

The feedback from both residents and attending physicians was positive, suggesting that it was an effective method of summarising information and minimising anchoring bias without significantly increasing time spent during the ward rounds. One resident persisted with the template even after leaving the division as he deemed it an effective tool in conveying his clinical reasoning during hand-overs and ward rounds.

Conclusion

This diagnostic pitfalls approach may be a simple, practical and efficient method of improving clinical diagnostic problem solving. It promoted greater documentation transparency and allowed residents to articulate their thought process more clearly. It also helped improve situational awareness and showed potential in reducing premature diagnostic closure. This strategy directs situation specific, selective attention to relevant diagnostic cues by deploying the residents' germane cognitive load. It allows easy review, oversight and feedback during daily ward rounds without the need for any additional resources nor elaborate training exercises. Further studies are needed to determine its sustainability and effect on diagnostic accuracy.

D1026

STUDENT ACADEMIC PERFORMANCE FACTORS AFFECTING MATCHING INTO FIRST-CHOICE RESIDENCY AND COMPETITIVE SPECIALTIES

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Background and Aims

Institutional emphasis is often placed on the types and competitiveness of residencies to which their medical school graduates match. Monitoring residency specialty placement calibrates alignment with the institutional mission, such as primary care or research, and measuring relative competitiveness of residency provides "bragging rights", perhaps to attract future talent. There are many studies which identify academic factors which affect getting into competitive residencies. What is lacking in the literature is a focus on and measurement of what it takes for medical school graduates to attain their first choice residency. We identify academic performance factors affecting matching into first-choice residency and contrast that with factors affecting highly competitive specialties using the Careers in Medicine® competitiveness ratings.

Methods

The authors conducted a study of 1,726 graduates from their institution between 2010 and 2017 and assessed pre- and post-admission academic variables for associations with matching into first choice and specialties of varying competitiveness.

Results

Approximately half (53.9%, n=931) of graduates matched into their first choice. Matching into first choice was associated with passing the Comprehensive Osteopathic Medical Licensing Examination of the United States (COMLEX-USA) Level 2 CE (P=0.01), PE (P=0.02) on the first attempt, and higher COMLEX Level 2 CE and USMLE 2 CK scores (P<0.001 and 0.002; 14.1 and 3.9-point difference in mean scores respectively). Pre-clinical GPA (P=0.002) and highest MCAT score (P=0.02) were also associated, however differences in means were <1 point for both. Matching into highly competitive specialties was associated with passing COMLEX Level 1 (P <0.001), Level 2 CE (P <0.001), USMLE Step 1 (P <0.001) and Step 2 CK (P=0.03) on the first attempt. Mean scores of students matching into high- versus low-competitiveness specialties differed as follows: COMLEX Level 1 62.7 points, Level 2 CE 50.5 points, USMLE Step 1 13.6 points, Step 2 CK 7 points (all P<0.001), as did mean pre-clinical GPA (2.4 points, P <0.001).

Conclusion

Licensing exam performance is important for matching into first-choice residency and highly competitive specialties. However, differences in scores were not as pronounced for matching into first choice as for highly competitive specialties. These results may help faculty prepare students and inform curriculum design to improve matching.

D1027

THE SIGNIFICANCE OF ABDOMINAL DIAGNOSIS WITH KAMPO MEDICINE TECHNIQUES FOR UNDERGRADUATE MEDICAL EDUCATION IN JAPAN

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Background and Aims

In Japan, Kampo medicine is a required subject for Japanese undergraduate students studying medicine. The approach of Kampo medicine is quite different from that of modern western medicine; thus, we think that the undergraduate students must study the techniques of both Kampo and western medicine. Among the diagnostic methods of kampo medicine, we think that abdominal diagnosis is the most useful for medical students, because they have already learned the process of abdominal diagmnosis in western medicine. They can easily understand differences in the two methods. For this study, we studied the significance of teaching abdominal diagnosis using the techniques of Kampo medicine as a component of the medical education of Japanese undergraduate students.

Methods

We first teach the methods of abdominal diagnosis (8 findings) in Kampo medicine. Then, we have students see real patients, as follows. First, an instructor examines the patient and tells the students the number of abnormal findings seen in the abdominal examination. Next, one or two students examine the patient and discuss the abnormal findings with each other. Third, the teacher tells his findings to the students, and they examine the patient again. This process was done with about 10 patients in two to three hours. Finally, students answer questionnaires on their feelings about this practice.

Results

Two hundred fifty 5th year medical students at Kyushu University experienced this practice from September 2017 to March 2018. Question 1: "How do you feel about today's practice?" 219 (86.9%) students answered that their day's practice was very significant. Question 2: "In the future, would you like to study more about Kampo medicine?" 157 (62.3%) students answered that they would like to study Kampo medicine intensively. Question 3: "Do you think that Kampo medicine is needed in clinical practice?" 149 (59.1%) students answered that they think Kampo medicine will be quite necessary. In the free writing section, most students noted that understanding the following was important and useful to their education: The difference of abdominal diagnosis between Kampo and western medicine; the usefulness of abdominal diagnosis; the usefulness of kampo medicine in modern medicine; the doctor / patient relationship.

Conclusion

We feel that teaching Kampo medicine in medical education, especially abdominal diagnosis, to Japanese undergraduate students is useful and important in that it helps them think from multiple perspectives.

D1028

MD PORTFOLIO: TRANSITION AND CHALLENGES

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Background and Aims

E-Portfolio assessments have increasingly been advocated as a means of capturing the processes and outcomes of learning, and of providing evidence of learning in relation to graduate qualities and professional competencies.

Methods

In 2014, the University of Western Australia introduced a four-year MD program structured around six themes i.e. Professional, Leader, Advocate, Clinician, Educator and Scholar (PLACES). MD Portfolio was introduced as a longitudinal assessment across four years of the curriculum with assessments at four points in the curriculum. Students were required to collect evidence in form of points throughout their course and submit a formal portfolio for review each year.

At each review there was an expectation that a student has completed a minimum number of accumulated points and a minimum number in each of the six PLACES themes. At the final review, the MD Portfolio needs to accumulate a minimum of 300 points.

Results

A number of challenges were faced in the implementation of the MD Portfolio which led to the restructuring of the process. In this presentation, we will discuss the transition of the longitudinal E-Portfolio from a point based system to the current system based on the evaluation and allocation of resources.

Conclusion

Introducing a longitudinal E-Portfolio requires considerable resource allocations and challenges which need to be carefully thought and planned.

D1198

WHAT ARE THE INFLUENCING FACTORS FOR ADOPTING TECHNOLOGY ENHANCED LEARNING IN THE MEDICAL SCHOOLS OF PUNJAB, PAKISTAN?

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Background and Aims

In the modern era, the widespread accessibility of technologies has opened the door for the feasible delivery of education and great opportunities for knowledge exchange worldwide. The successful establishment of technology enhanced learning system demands extensive investment in terms of planning and implementation at national, institutional and individual levels. The whole process requires the involvement of stakeholders including educators, students and administrators to obtain their ideas about the usage of TEL (Technology Enhanced Learning). Thus, it is crucial to know what factors promote and foster the integration of TEL in pedagogy.

Aim of Study

The main research question is, "What are the influencing factors for adopting TEL in the medical schools of Punjab, Pakistan?" There are three sub- questions under this main heading.

1. What are the medical educators' perceptions about the factors influencing the adoption of TEL in their professional practice?

2. What are the difficulties in integrating TEL in the medical educational system?

3. How can the process of adoption of TEL be enhanced in the future?

Methods

Semi-structured interviews were conducted with medical educators and these participants were selected on the basis of their wide range of teaching experience in different disciplines of the medical profession; their teaching experience varied from 5 to 20 years. Most of the participants were in influential positions at departmental level, ranging from assistant professor to professor. The approach provided a variety of experiences and stories among the different disciplines concerning TEL. All the interviews were audio-recorded and transcribed by the lead researcher. After transcribing the data, thematic analysis was carried out by using Nvivo-10 software and data were analysed manually. Finally, the combination of manual analysis and use of software Nvivo-10 was employed to make for more dependable results

Results

The study participants were well aware of educational technologies and stated that the influencing factors for adoption of TEL were self-effort, motivation, a personal positive approach and departmental policy. The institutions were well equipped with resources but the main problem was the lack of faculty training and institutional support.

Conclusion

The study concludes that pedagogy is the main driver for the use of educational technologies. At the national level, it is suggested that governing bodies can provide definite polices and guidelines for the implementation of TEL. Therefore, it is advocated that recognising online courses can enhance potential learners' interest to enroll for e-learning programmes. At the institutional level, it is proposed to encourage the establishment of institutional policies and the organisation of workshops for faculty training. At an individual level, it is stressed that there is a basic requirement to develop a technology-oriented culture partly by sharing the power and expertise among the department heads and faculty members.

SHORT COMMUNICATIONS 5

D1029   **Factors Influencing Students' Interest in Surgery as a Career Option and the Impact of Mentorship: A Prospective National Cohort Study**
Nicholas Syn, Singapore

D1030   **Impact of Reflective Writing on the Learning of ACGME Core Competencies Among Medical Residents**
Tan Chi Hsien, Singapore

D1031   **Innovative Curriculum Change – Moving from an MBBS to a Doctor of Medicine Program in an Australian Medical School While Maintaining Undergraduate Entry – How Can You Do it?**
Janie Dade Smith, Australia

D1032   **Mistakes are Ok! - Error Management Training for Flexible Bronchoscopy Assisted Intubation Training**
Tan Li Hoon, Singapore

D1033   **The Academic Stress and Coping Strategies of Students Who are Highly Satisfied in Their Academics**
Kangmoon Kim, South Korea

D1034   **The Differences of Educational Environment Between PGY-1 and PGY-2 at a Rural Teaching Hospital in Japan Evaluated by PHEEM**
Kazuki Tokumasu, Japan

D1035   **Integrating Surgical Skills Training into Anatomy Education Using Embalmed Wet Lab Specimens with Traditional Herbal Conservation and Novel Fixation Method**
Nguyen Huu Ta, Vietnam

D1029

FACTORS INFLUENCING STUDENTS' INTEREST IN SURGERY AS A CAREER OPTION AND THE IMPACT OF MENTORSHIP: A PROSPECTIVE NATIONAL COHORT STUDY

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Background and Aims

Studies in predominantly-Caucasian populations indicated that interest among medical students in pursuing a surgical career is dwindling. We may be seeing similar trends in local postgraduate surgical training as well. We sought to investigate these trends and evaluate the factors in relation to surgical mentorship in a multiethnic Asian population.

Methods

Between 2015-2017, 222 Singaporean third-year undergraduate medical students completed a structured anonymised questionnaire following the completion of an 8-week general surgery rotation. The difference in students' pre- and post-clerkship attitudes towards general surgery was compared. Students rated factors that may have positive ("pull") or negative ("push") bearings on their decision to pursue a career in surgery which was evaluated using an exact binomial test under the null hypothesis the proportion of "pull" or "push" responses are equal. McNemar's exact test and Fisher's exact test were used to compare paired and unpaired proportions respectively. Medical students' impressions of their faculty and resident mentors were analysed using hierarchical multilevel mixed-effects models with random-intercepts, taking into account clustering of survey responses under individual hospitals as well as intra-student dependency in the appraisal of residents and faculty.

Results

After the surgical clerkship, opinions of general surgery improved from 2.94 ± 0.89 points to 3.97 ± 0.77 points (paired difference=1.03; 95%CI=0.89-1.17; $P=2.43 \times 10^{-34}$) with the slight majority of participants indicating that they would like to pursue general surgery as a career (16.2%), followed by internal medicine (12.6%) and family medicine (6.8%). The most important "pull" factors were: intellectual challenges arising from cases ($P=1.42 \times 10^{-48}$), presence of role models ($P=4.73 \times 10^{-39}$), operative exposure ($P=3.52 \times 10^{-22}$), interaction with residents ($P=6.46 \times 10^{-21}$), and the students' overall experience during clerkship ($P=5.72 \times 10^{-18}$). There was no difference in the proportions of students who regarded interaction with surgical residents or faculty as "pull" factors (ratio=1.07; 95%CI=0.99-1.16; P=0.0704). The most significant "push" factors were medical students' perception of lifestyle during residency ($P=7.23 \times 10^{-30}$), working hours ($P=6.84 \times 10^{-20}$), perception of lifestyle after residency ($P=6.48 \times 10^{-9}$), length of surgical residency ($P=1.02 \times 10^{-5}$), and gender-related concerns ($P=2.13 \times 10^{-3}$). Male students were less likely than female students to consider gender-related concerns as "push" factors (ratio=0.46; 95%CI=0.35-0.60; $P=3.96 \times 10^{-11}$). As expected, students perceived resident mentors to be less proficient than faculty mentors in terms of theoretical knowledge ($P=2.13 \times 10^{-13}$); the ability to make teaching exciting and stimulating ($P=5.19 \times 10^{-3}$); explaining difficult concepts clearly ($P=2.48 \times 10^{-4}$); good clinical knowledge ($P=3.32 \times 10^{-9}$) and perceived enthusiasm for surgical practice ($P=9.62 \times 10^{-5}$). However, they found that surgical residents were more approachable and supportive ($P=3.29 \times 10^{-2}$), and able to provide more timely feedback and encouragement ($P=4.82 \times 10^{-4}$) as compared with faculty.

Conclusion

Our study has shown that a good surgical clerkship is paramount in influencing students' interest in surgery. The presence of role models was an important pull factor and the value of the different seniorities of mentors is well seen in our study. With this knowledge, the surgical clerkship can be improved by emphasising on pull factors and preparing students to cope with the push factors.

D1030

IMPACT OF REFLECTIVE WRITING ON THE LEARNING OF ACGME CORE COMPETENCIES AMONG MEDICAL RESIDENTS

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Background and Aims

Reflection is a critical component of learning and improvement. It remains unclear how it can be effectively developed. We studied the role of reflective writing in promoting deep reflection in the context of learning of Accreditation Council for Graduate Medical Education (ACGME) core competencies among medical residents.

Methods

The study setting was the Internal Medicine Residency Program of the National University Health System, Singapore. All recent graduates of the program (within the past year) were invited to participate. A convergent parallel mixed methods design collecting both quantitative and qualitative data was used. Reflective writings were analysed for categories and frequencies of ACGME competencies covered, and graded for levels of reflection. Individual semi-structured interviews collected residents' perceptions of the value of reflective writings.

Results

9 participants were interviewed. 35 reflective writings were analysed. 30 (86%) of the writings showed a deep level (grade A or B) of reflection. Participants reflected on all six ACGME competencies, especially 'patient care'. Participants were reluctant to write (they had done so to meet program requirements) but found benefits of increased understanding, self-awareness and ability to deal with similar future situations, facilitation of self-evaluation and emotional regulation. Limitations of reflective writing raised include reluctance to share honestly due to fear of embarrassment, and possibility of triggering unwanted emotions. Supervisors' guidance and feedback on reflective writings were perceived to be lacking and residents felt that these would have enhanced the value of reflection.

Conclusion

Our study found that reflective writing within an Internal Medicine Residency program promoted deep reflection in the learning of ACGME core competencies. In particular, residents used self-reflection to enhance their skills in patient care. The important role of supervisor guidance and feedback in enhancing reflective learning was recognised.

D1031

INNOVATIVE CURRICULUM CHANGE - MOVING FROM AN MBBS TO A DOCTOR OF MEDICINE PROGRAM IN AN AUSTRALIAN MEDICAL SCHOOL WHILE MAINTAINING UNDERGRADUATE ENTRY - HOW CAN YOU DO IT?

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Background and Aims

There is a trend globally to change from the traditional Bachelor of Medicine, Bachelor of Surgery (MBBS) program to a Doctor of Medicine program. Many Australian Universities have made this shift, mostly from graduate entry programs.

For the past decade, Bond University in Australia has conducted an MBBS program with undergraduate entry at the Australian Qualifications Framework (AQF) Level 7. In 2015, Bond University Medical Program was accredited by the Australian Medical Council to implement a Doctor of Medicine program, where the first three years are at undergraduate level and the following two years of the program are at masters level (AQF level 9 extended).

Methods

In 2013 Bond renewed its curriculum for its first-year students commencing in the new program, which consisted of problem-based learning (PBL) cases in the first five instead of seven semesters, and with Year 3 becoming a clinical year of case-based learning, using simulation through the Bond Virtual Hospital. These curriculum innovations provided space for the research training and project requirements using a new model that increased clinical exposure and was implemented for the first time in 2016 as a masters level program, whilst maintaining undergraduate entry.

Results

The MD 3+2 model was described in the external evaluation as 'novel and innovative', in that it is walks students through the whole research process from developing a research question, undertaking a literature review and a project, through to presenting the findings at an end of year medical student conference. It is a flexible program that allows students to choose from a variety of projects to undertake in their final year: a research project, or a professional project or a capstone experience. The capstone projects enable students to undertake placements in the Solomon Islands, South Africa or India, as well as remote Indigenous communities. The professional projects have resulted in innovative simulation moulages and the development of a bank of examination questions used for students practice exams. The program also includes a variety of other tasks in years 3 and 4, which form the basis of a points system whereby students have to achieve a total of 100 points, which they collect in an electronic portfolio - one of numerous innovations developed. The structure is fully integrated with the existing curriculum and assessment process.

Conclusion

We are now in our second year of implementation with our first graduates in December 2017. This paper will provide an overview of the innovative Bond University MD Program, the model, the innovations and the processes involved in its successful implementation, as well as the challenges.

This innovative model is breaking new ground in the way in which a masters level MD program could be developed, whilst maintaining undergraduate entry.

D1032

MISTAKES ARE OK! - ERROR MANAGEMENT TRAINING FOR FLEXIBLE BRONCHOSCOPY ASSISTED INTUBATION TRAINING

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Background and Aims

Manikins and virtual reality (VR) simulators are used for training in flexible bronchoscopy and flexible bronchoscopy assisted intubation (FBI), essential skills in which anaesthetists need to be proficient.

Error management training (EMT) is a training approach that explicitly encourages errors and exploration by learners. Error based training has been shown to be useful for various domains, including computer skills, driving, fire-fighting and simple surgical skills. The use of EMT for acquisition of skills of flexible bronchoscopy and FBI has not been explored.

Aim: To compare the effect of EMT vs directed feedback for junior doctors training in bronchoscope manipulation using a virtual reality simulation module, as measured by scores and time taken for bronchoscopy in a virtual reality model and FBI in airway manikins.

Methods

Twenty-four doctors, novices at FBI, were randomised into 2 groups (Group EMT, Group Control). All received initial teaching with reading material and demonstrations.

Intervention: Participants underwent 30 minutes of bronchoscope manipulation training using VR simulator (Simbionix Bronch Mentor). Group EMT (N=12) received EMT approach, with the trainer encouraging errors and exploration, but not providing guidance on how to improve. Group Control (N=12) received directed feedback and encouragement to improve on scores. Both groups were able to view scores and data provided by the simulator for each of their attempts in the scope manipulation training module.

Outcome measures:
Just before the training intervention, all underwent assessment of bronchoscopy in a VR simulator, and FBI via oral route on a horizontal manikin. Immediately after training, assessment in VR bronchoscopy was repeated.

After 4-8 weeks, participants underwent interval assessment of VR bronchoscopy. They were also evaluated on FBI in an airway manikin via oral route (horizontal and vertical manikin position) and nasal (horizontal).

All performances were assessed by a single assessor blinded to group assignment. Bronchoscopy was assessed using bronchoscopy assessment score (BAS) and time taken. FBI was evaluated by BAS, checklist score (CS), global rating score (GRS) and procedural times (time taken for bronchoscopy and time taken for FBI). Scores and times were compared to pre-training results using repeated measure 2-way ANOVA. Statistical significance was taken as $p < 0.05$. Data is presented as mean (SD).

Results

For VR bronchoscopy, there was a statistically significant change over the sessions (Pre-Post-Interval) for BAS [Group EMT 5.1(1.4) - 6.1(1.2) - 6.7(1.1) and Group Control 4.7(1.6) - 5.6(1.9) - 6.4(1.4)] and time taken(s) [Group EMT 25.1(6.6) - 26.8(10.2) - 23.9(7.4) and Group Control 24.4(6.6) - 33.0(31.6) - 20.8(7.6)] ($p < 0.05$)}. However, there was no statistically significant difference in the changes between the 2 groups.

There was also no statistically significant difference between the two groups in the change from baseline in BAS, GRS, CS and procedural times for the 3 manikin scenarios tested after an interval.

Conclusion

Comparing EMT and direct feedback approach during virtual reality bronchoscope manipulation training, there is no difference in the change in scores and time for VR bronchoscopy and FBI on manikins. EMT may be considered as an alternative approach for bronchoscopy skills training.

D1033

THE ACADEMIC STRESS AND COPING STRATEGIES OF STUDENTS WHO ARE HIGHLY SATISFIED IN THEIR ACADEMICS

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Background and Aims

Through qualitative research, to discover how medical students with high academic satisfaction perceive and cope with academic stress, and discover the relationship between perceived academic stress and learning outcomes.

Methods

In-depth interviews were conducted by a researcher who is a medical student at the same school to eight students (five students in the second grade and three in third) attending the medical school of Korea University. The participants with high academic satisfaction (more than 70 % self-conscious in interviews) were recruited through purposeful sampling. The researcher (HJ) asked about the factors of academic stress, how to cope, the perception of academic stress, and the correlation between academic stress and learning outcomes. Quality analysis was carried out on recorded interviews by KM. The analysis was conducted using N-vivo 12.0. We conducted line by line coding, focus coding, and axial coding according to grounded theory approach. HH, KM and YM reviewed and discussed about the coding and theoretical results.

Results

Medical students who participated in the study had greater stress on test scores and possibility of failing than on the amount of their study. The level of satisfaction with learning was dependent on performance against effort. They reported that their academic burden decreased as the school year went up. The strategy for coping with stress was to present cognitive interventions (putting down greed, picking out important things, self-contextualising) and interactions with peers.

According to a substantial theory based on the results of the axial coding, medical students with high academic satisfaction come to the regular course and face stress and eventually they overcome. Medical students face stress in their personal and social contexts, and stress could be overcome by the meanings of personal life, motivation of study, and whether they acquire an effective learning strategy.

Conclusion

Medical students with high academic satisfaction deal with stress through various strategies. Strategies such as picking out the important ones, finding meaning through self-contextualisation, cognitive intervention, and being comforted by peers are consistent with constructivist and socio-constructivist theory of learning. In this study, medical students reported anxiety about possibility of failing and performance against effort as the cause of learning stress. On the other hand, the high workload was recognised as a necessary course of becoming a doctor. This is a study from students with a high level of learning satisfaction and requires further study for generalisation.

THE DIFFERENCES OF EDUCATIONAL ENVIRONMENT BETWEEN PGY-1 AND PGY-2 AT A RURAL TEACHING HOSPITAL IN JAPAN EVALUATED BY PHEEM

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Background and Aims

The Postgraduate Hospital Educational Environment Measure (PHEEM) developed by Roff et al. (2005) is a highly reliable and valid tool to assess the clinical learning environment. Higher score means better training environment. Some study revealed the differences between levels of training. Al-Shiekh et al. (2014) showed that interns had significantly higher scores in the field of role autonomy and social support than residents. On the other hand, Khoja (2015) and Gough et al. (2010) found senior residents had better scores. These studies showed the differences between levels of training, however there has been few studies to reveal the contents of the differences.

We aimed to clarify the contents of the differences between levels of training at a rural teaching hospital in Japan.

Methods

The cross-sectional study was performed in Okinawa Hokubu Hospital between February to March 2018. This hospital locates rural area in Okinawa prefecture and has about 250 beds. There were five Postgraduate Year (PGY)-1 and four PGY-2 residents. Nine internal medicine doctors, eight surgeons, five pediatric physicians, three obstetricians/gynecologists and five senior residents(PGY-3.4) taught them. PHEEM was administered to PGY-1 and PGY-2 residents. We used the Japanese version of PHEEM which was already translated Nishigori et al. (2006).

Results

In this study, five PGY-1 residents and four PGY-2 residents answered the PHEEM. The response rate was 100%. The PGY-1's overall score was remarkably higher than PGY-2's (mean:PGY-1/2=104/82, 95% Confidence Interval; CI, 12-40, P = 0.003). Role autonomy, teaching and social support had also significant differences between PGY-1 and PGY-2(Role autonomy; mean: PGY-1/2=32/26, CI;0.25-13, P=0.04, Teaching; mean:PGY-1/2=42/33, CI;4-14, P=0.003, Social support; mean:PGY-1/2=30/19, CI;6-16, P=0.001).

Especially, questions No. 29 "I feel part of a team working here."(Role autonomy), No. 2 "My clinical teachers set clear expectations.", No. 28 "My clinical teachers have good teaching skills." (Teaching), No. 20 "This hospital has good quality accommodation for junior doctors, especially when on call." and No. 25 "There is a no-blame culture in this post." (Social support) were significant different.

Conclusion

Overall score and subscale scores were higher PGY-1 than PGY-2 in our study, as well as Al-Shiekh et al. (2014) showed. In this previous study, the reasons were considered that senior residents have more responsibility and received less guidance. According to our results, PGY-2 residents were difficult to feel part of a team and to acknowledge clear expectations from clinical teachers. Thus, in order to improve the educational environment, it was necessary to consider resident's roles in the medical team and set goals each levels of training.

PHEEM is a useful instrument for the evaluation of training environment. The clarification of the differences of items between their levels can lead more appropriate educational environment.

References

Al-Sheikh, M. H., Ismail, M. H., & Al-Khater, S. A. (2014). Validation of the postgraduate hospital educational environment measure at a Saudi university medical school. Saudi Medical Journal, 35(7), 734-738.

Gough, J., Bullen, M., & Donath, S. (2010). PHEEM 'downunder'. Medical Teacher, 32(2), 161-163.

Khoja, A. T. (2015). Evaluation of the educational environment of the Saudi family medicine residency training program. Journal of Family & Community Medicine, 22(1), 49.

Nishigori, H. & Yoshida, I. (2006). The Japanese version of DREEM (Dundee Ready Educational Environment Measure), PHEEM (Postgraduate Hospital Educational Environment Measure), ATEEM (Anaesthetic Theatre Education Environment Measure) and STEEM. Medical Education (Japan), 37(2) 97–103

Roff, S., McAleer, S., & Skinner, A. (2005). Development and validation of an instrument to measure the postgraduate clinical learning and teaching educational environment for hospital-based junior doctors in the UK. Medical Teacher, 27(4), 326-331.

D1035

INTEGRATING SURGICAL SKILLS TRAINING INTO ANATOMY EDUCATION USING EMBALMED WET LAB SPECIMENS WITH TRADITIONAL HERBAL CONSERVATION AND NOVEL FIXATION METHOD

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Background and Aims

Surgical skills training, integrated into anatomy education, on human cadaver could enhance students' understanding and may promote their interest in surgery. However, lack of human cadavers leads to alternative models on animals. Because human and canine anatomy is similar, surgical skills can be practiced on dogs. In our study, embalmed wet lab specimens from canine with traditional herbal conservation and novel fixation method were used for surgical skills training. The students knowledge acquisition and satisfaction were assessed with the new curriculum.

Methods

Fourty students were taught by integrated surgical skills training into anatomy using embalmed wet lab specimens. 20 canine internal organ blocks were used. The harvesting procedure was similar to multiple-organ procurement. Organ blocks were preserved using the Ethanol-Glycerin-Acetic acid-Saturated Salt solution fixation with traditional herbal conservation method.

Students knowledge acquisition and satisfaction were assessed according to the book "ABC of Learning and Teaching in Medicine", edited by Peter Cantillon and Diana Wood, 2nd edition, 2010 by Blackwell Publishing Ltd. .In short, after finishing the course, the students were assessed by written assessment, skill-based and work-based assessment methods for their knowledge acquisition and satisfaction.

Results

The students thought the course was highly relevant to their current level of training and comfort levels performing the skills taught compared with before the course was markedly improved. Furthermore, 50% stated that their interest in surgery increased after the exercise. Also, 100% students were satisfied with using embalmed specimens. Our preservation method had a sufficient antibiotic effect and produced specimens with a high tissue quality. All embalmed specimens were preserved at room temperature for three months but still similar to the fresh specimens.

Conclusion

Basic surgical skills training can be integrated into first-year anatomy course without detracting from didactic instruction in anatomy. Furthermore, students, received early exposure to surgical skills training, might be increased interest in surgical careers. Using wet lab specimens serves well to training purposes, surgical skills training as well as anatomy education. Our embalming method is simple, carries a low infectious risk, and is relatively of low cost, enabling a wider use for medical education.

SHORT COMMUNICATIONS 6

D1036   **Resumed Tutors: A Resident-Led Near-Peer Teaching Programme for Undergraduate Medical Students**
Nah Kai Yi Benjamin, Singapore

D1037   **Demystifying the Roles of Advanced Practice Nurse (APN) Through Pre-Master-Nursing-Mentorship (MNM) Programme**
Jamie Lim, Singapore

D1038   **Using an Innovative App-Integrated Online Tool to Enhance Experiential Learning and Reflection**
Christine Cook, Australia

D1039   **Best Practices in Rubric Design for Ethics Education for the Health Professions: A Literature Review**
Tamra Lysaght, Singapore

D1040   **A 2 Year Pilot Study Results of a Longitudinal Integrated Clerkship Programme**
Hyun Bae Yoon, South Korea

D1041   **An Innovative Curriculum for Pre-Clinical Medical Students— 'Experiential Learning in Human and Technology'**
Chi-Chuan Yeh, Taiwan

D1042   **Evaluation of Learning Motivation of At-Risk Medical Students in Aichi Medical University**
Ruri Aoki, Japan

D1036

RESUMED TUTORS: A RESIDENT-LED NEAR-PEER TEACHING PROGRAMME FOR UNDERGRADUATE MEDICAL STUDENTS

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Background and Aims

Near-peer teaching has been gaining traction in recent years. Owing to social and cognitive congruence, tutors can better relate to students and create a more conducive learning environment. Additionally, this provides a unique platform to hone the teaching abilities and medical know-how of near-peer tutors. RESidents as Undergraduate MEDicine (RESUMED) Tutors was initiated as a voluntary teaching scheme whereby residents supplemented faculty tutors in teaching medical students within a tertiary teaching hospital.

Methods

48/120 (40%) of residents participated voluntarily to teach 80 final year medical students across their 2-month Internal Medicine rotation. Each medical student group, comprising 7 medical students, was assigned 2 faculty and 4 resident tutors. Tutorials included bedside clinical skills teachings, objective structured clinical examination tutorials, communications and counseling sessions as well as didactic lectures. Upon completion of their rotation, medical students were invited to evaluate the RESUMED tutor programme and provide individual quantitative and qualitative feedback to their tutors via a structured questionnaire.

Results

On average, resident tutors gave 2 tutorials per week, with each tutorial spanning 1-2 hours. 68.1% of medical students felt more comfortable approaching RESUMED tutors regarding their questions and doubts as opposed to faculty tutors. 95.7% of medical students perceived near-peer teaching to be more exam-oriented compared to faculty-led teaching. 92.4% strongly agreed they benefited from these teaching sessions, whilst 89.9% and 88.4% felt that junior residents had sufficient knowledge and teaching abilities respectively. The majority (91.3%) of students strongly agreed such a teaching scheme should be continued for future students, with 95.8% being inspired to teach upon graduation.

Conclusion

The RESUMED near-peer tutor scheme is a sustainable option to provide quality education to medical students. Final year medical students agree that their near-peer tutors were adequately equipped in terms of knowledge and skill-sets to deliver effective teaching and have benefitted greatly from it.

Our experience illustrates how implementation of a near-peer teaching scheme in a residency programme may be a good supplement to faculty-led teaching in providing holistic education to medical students, while simultaneously aiding residents in their professional development.

D1037

DEMYSTIFYING THE ROLES OF ADVANCED PRACTICE NURSE (APN) THROUGH PRE-MASTER-NURSING-MENTORSHIP (MNM) PROGRAMME

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Background and Aims

Professional socialisation, developing professional identity through the learning of norms, attitudes, roles and values of the profession, is a critical aspect of nursing development.

Registered Nurses (RN) pursue a Masters course to become Advanced Practice Nurses (APN). Our APN faculty selects candidates using Multiple Mini Interview method one-year in advance. Some candidates have expressed unpreparedness and uncertainty about their choices. A pre-Master-nursing-Mentorship (MnM) Program was developed to help them understand the APN identity.

Methods

In the MnM Program, RNs were buddied up with inflight Masters students on their clinical practicum to allow interaction with them and their preceptors (doctors and APNs). Upon completion, RNs used the Rolfe Reflective Model to guide self-reflection. They reflected on the purpose and benefits of the program and key lessons from their buddies and preceptors ("What"), clarified their own capabilities and potential to be an APN ("So what"), and how they would overcome their own limitations ("Now what").

Results

8 RNs participated in the program from March 2015 - August 2017. Their reflective journals were analysed and themes that emerged are broadly summarised: (1) understanding the APN role, (2) resilience needed for the journey, (3) mastery of advanced clinical knowledge/skills, and (4) importance of near-peer and peer support.

Comments included: "I felt that it (MnM) has given me a head start to the Masters course..." and "It (MnM) acts as a prelude to my Masters study." All RNs subsequently enrolled in the Masters course.

Conclusion

A big part of professional socialisation is personal socialisation where the "newcomer" identifies, interacts and learns from the existing members in the social environment. Peer support and learning has a profound impact on self-development.

Professional socialisation programs similar to MnM can be useful in helping nurses build professional identity and direct career plans.

D1038

USING AN INNOVATIVE APP-INTEGRATED ONLINE TOOL TO ENHANCE EXPERIENTIAL LEARNING AND REFLECTION

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Background and Aims

Experiential learning and reflective practice are both core elements of family medicine training. To master skills across the broad curricula required within family medicine, it is essential to have experienced a broad range of consultations during training. Evidence that this has occurred is often required to fulfil family medicine training requirements. Traditionally, collating this evidence has been time-consuming, difficult and not easily linked to reflection and development of learning goals. This paper describes an app-integrated online tool that makes this process simple, accessible and clearly linked with reflection and learning.

Methods

GPEx is the training organisation within South Australia that provides training to doctor's specialising in family medicine. GPEx educates and supports over 500 registrars, with over 300 of these placed within accredited community-based General Practices. GPEx have developed an innovative app-integrated online tool, GP Explore, which assists registrars, their supervisors and GPEx to better understand patient diversity and patient load. GP Explore provides:

- a simple online or app based interface to enter de-identified patient data

- immediate automatic generation of individualised graphs to show comparative patient diversity and patient load

- easy access to individual data summaries which can be manipulated by the user to interrogate their own patient data

- a clear and integrated process for reflection, identification of gaps and generation of learning goals

- reporting tools for the training organisation to interrogate individual or group level data

GP Explore was introduced, used and evaluated by all registrars placed in community General Practice placements in 2018.

Results

It has assisted registrars and practices to identify educational gaps and improve registrar experiential learning. In addition, it has provided a simple mechanism to document evidence of clinical exposure and patient load during family medicine training, and enabled GPEx to interrogate data and inform continuous quality improvement.

Conclusion

The tool is cost effective, scalable, uses engaging app based technology and has demonstrated benefits for registrars, teaching practices and the training organisation.

D1039

BEST PRACTICES IN RUBRIC DESIGN FOR ETHICS EDUCATION FOR THE HEALTH PROFESSIONS: A LITERATURE REVIEW

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Background and Aims

Teaching health ethics, law and professionalism (HELP) in large undergraduate medical programmes is challenged by the need to teach and assess the ethical thinking skills of students fairly and reliably. Rubrics are an assessment and learning tool that can promote fairness and consistency in learning and can be helpful in providing students with constructive and timely feedback. In designing a rubric, it is important to observe best international practices to ensure the instrument is valid and reliable, easy to use, and has some objective measurement in the evaluation. Thus, the aim of this paper is to establish best practice in rubric design for use in teaching and evaluating ethics education in medical schools.

Methods

To establish best practice, I conducted a systematic narrative review of research published on the development of rubrics designed to teach and evaluate ethics education in professional medical programmes. I started with a previously published review of the literature in 2011 and searched for studies published between then and 2018 using keyword searches in Google Scholar. I included only peer-reviewed research on rubrics designed specifically for health or medical professional schools, and that had been tested for validity and reliability in assessing ethical knowledge and reasoning. I excluded rubrics designed to assess ethical behaviours and attitudes. The rubric parameters were then synthesised and evaluated for best practice.

Results

From my initial search, which returned 226 hits, I identified seven studies including three that had previously been reported in the earlier review. Results describe the scales, dimensions and performance tasks detailed in matrices of rubrics published.

Conclusion

Rubric design with matrices containing three level scaling and four to six dimensions appear to be best practice. The description of dimensions should vary according to the type of assessment being evaluated.

D1040

A 2 YEAR PILOT STUDY RESULTS OF A LONGITUDINAL INTEGRATED CLERKSHIP PROGRAMME

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Background and Aims

Longitudinal integrated clerkship is an innovative approach in medical education that emphasises continuity as a key principle to provide student-centred experience and learning. Seoul National University College of Medicine decided to adapt longitudinal integrated clerkship to the new curriculum from the year 2018, and conducted pilot studies in year 2016 and 2017. This study aimed to analyse the program evaluation results of those two pilot programs and to discuss about the issues related to the successful implementation of longitudinal integrated clerkship in Korea.

Methods

The pilot program of longitudinal integrated clerkship was conducted simultaneously with the conventional rotational clerkship of the third year course. 9 students participated in the year 2016 pilot program and 13 students participated in the year 2017 pilot program. Students were instructed to follow-up their patients and have monthly regular meetings with the faculty and other participants. We conducted a focus group interview at the end of the pilot program with the 9 students in year 2016 and with the 13 students in year 2017. We conducted an additional survey with the participants in year 2017. We also conducted a focus group interview with 11 faculties who participated in the pilot programs.

Results

From the 2016 experience, we found that it is not appropriate to arrange each patient to a single student and to let the students contact their patients personally because of the feasibility and safety issues. In the 2017 pilot program, we arranged each patient to a group of students, which was more feasible for the students to follow-up their patients. The students were satisfied with their new experience of longitudinal patient follow-up and regular meetings in the pilot program. Longitudinal integrated clerkship seemed to help the students understand the patient experience with a comprehensive perspective. Students suggested to implement a patient-visit notification system for closer follow-up and e-portfolio system to receive real-time feedback from the faculty. The faculties emphasised the importance of establishing the course objectives and the orientation for the students and the faculties.

Conclusion

This 2 year pilot program showed that it is possible to implement a longitudinal integrated clerkship simultaneously with the conventional rotational clerkship. From this experience, Seoul National University College of Medicine launched a longitudinal integrated clerkship in the new curriculum from the year 2018. Further study is planned to evaluate the early outcomes of the main longitudinal integrated clerkship.

D1041

AN INNOVATIVE CURRICULUM FOR PRE-CLINICAL MEDICAL STUDENTS- 'EXPERIENTIAL LEARNING IN HUMAN AND TECHNOLOGY'

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Background and Aims

For our medical students who are high school entry and spend 6-7 years in medical school, they need to learn gross anatomy and have limited clinical exposure in their third-year studies. The aim of this study is to introduce an innovative curriculum adopted theory of experiential learning and to present its preliminary effect.

Methods

We started this new elective course named ' Experiential learning in human and technology ' since 2014, which consists of five modules-'experiential leaning in the campus', 'important persons and milestones of anatomy development', 'breaking Da Vinci code', 'pondering on the operating table', and 'who is the silent teacher?'. Each module provided students various experiential and hands-on opportunities in a small group in order to connecting these experiences to what they are learning in lectures. 32 students selected this elective course between 2014 to 2017. We started formal evaluation of this course with a questionnaire and analysis of their reflection notes since 2016.

Results

17 students were enrolled. The overall satisfaction of this course for meeting students' expectation was 7.9±1.5 (10 points scale). They agreed that this course provided them the opportunities of experiential learning (8.6±2.2), teamwork (7.7±1.3), and self-exploration (8.0±1.5), enhanced their learning by hands-on experiences (9.1±1.0), connected to current lectures (7.8±1.6), increased their interests on medicine (8.5±1.4). They also would like to act like the teachers as their models (8.8±1.2). Unfortunately, they did not consider 'think carefully about the interaction between human and technology' as their rewards after completing this course (6.4±2.5). From their reflection notes, deep learning through these experiences provided in each module were found and hands-on experiences were beneficial to them most.

Conclusion

In summary, we introduced an innovative elective course with experiential learning for pre-clinical medical students and showed its feasibility. We should reform our curriculum and stress on 'think carefully about the interaction between human and technology' In the future, implementing this course in a large scale will be explored.

EVALUATION OF LEARNING MOTIVATION OF AT-RISK MEDICAL STUDENTS IN AICHI MEDICAL UNIVERSITY

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Background and Aims

Introduction
Increasing rate of repeating the same grade has significant issue in medical school in Japan. The rate of those students has gradually increased from 3.7% in 2009 to 4.2% in 2017. This tendency may be caused by lower learning motivation for being a medical doctor and/or not-appropriate ability or character to be a medical doctor in some cases. Long-term learning motivation for 6 years requires to be a medical doctor. Medical education centre in Aichi Medical University has started to organise the learning supporting classes for at-risk low academic performance medical students.

Purpose
Lack of learning motivation may increase the rate of students repeating the same grade or dropping out. In this study, we evaluated the learning motivation of at-risk low academic performance students.

Methods

Special learning support courses have opened from 2017 one time a week for at-risk low academic performance students. These at-risk students were selected by scores of the previous grade. Totally 51 at-risk students from 2nd grade through 4th grade were selected for learning support courses, and who were assessed by their learning motivation. Learning motivation was evaluated by motivation section of Motivated Strategies for Learning Questionnaire, MSLQ. The motivation section consists of 31 items which assessed three components, such as value, expectancy and affect components. These components were divided to 6 elements, such as intrinsic goal orientation, extrinsic goal orientation, task value, control of learning beliefs, self-efficacy for learning and performance, and test anxiety. Those elements were compared with the average of same grade with MSLQ.

Results

Extrinsic goal orientation of value component, which showed by such as grades, rewards, comparing one's performance to that of others, were significantly higher in 4th grade at-risk students compared with the average of same grade (p=0.01). Control of learning beliefs of expectancy components, relating that their efforts to learn will associated with positive outcomes, were significantly higher in 4th grade at-risk students compared with the average of same grade (p=0.01). Test anxiety were significantly higher in 4th grade at-risk students (p=0.03), the control of learning beliefs were significantly lower in 3rd grade at-risk students (p=0.01), and the self-efficacy for learning and performance of expectancy components tended to be lower in 2nd grade at-risk students (p=0.07).

Conclusion

We evaluated the learning motivation of at-risk students in this study. Learning motivation was higher in 4th grade at-risk students, however 2nd and 3rd grade at-risk students was lower in learning motivation. Further evaluations will be needed to assess the effect of learning support courses on learning motivation.

SHORT COMMUNICATIONS 7

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D1043

CHANGING THE ANAESTHESIOLOGY LICENSING EXAMINATION IN SINGAPORE

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Background and Aims

The current licensing examination for Anaesthesiology in Singapore consist of 2 different examination systems. On completion of basic training, the Master of Medicine (Anaesthesiology) MMed(Anaes) Examination, administered by Division of Medical Graduate Studies(DGMS), NUS, will certifies progression to advance training. While on completion of advance training, an Anaesthesiology Exit Examination, administered by Specialists Accreditation Board, Ministry of Health, (MOH) Singapore, Joint Committee on Specialist Training and American Board of Medical Specialties - Singapore (ABMS-S), will certified completion of training.

The current format of MMed (Anaes) Examination was originally designed to be knowledge-based with emphasis on basic and applied clinical science subjects, similar to the United Kingdom (Fellowship of the Royal College of Anaesthetists) and Australia (Fellowship of the Australian and New Zealand College of Anaesthetists) exams. Over time, both the Royal College of Anaesthetists in UK and Australian and New Zealand College of Anaesthetists in Australia have made significant changes to their examinations to better complement the changes in their training curriculum, and are now unlike our current examination format.

The Anaesthesiology Exit Examination is an amalgamation of the knowledge-based ABMS Anaesthesiology written examination and a pre-existing oral based paper critic and management discussion. As ABMS examination is developed independently from the MMed (Anaes) Examination, there is significant overlap between medical knowledge examined.

Anaesthesiology training in Singapore has evolved, changing from a predominantly subject-based curriculum to a competency-based ACGME-I curriculum adapted to our local needs in 2011. The ACGME-I curriculum, based on the American ACGME's (Accreditation Council for Graduate Medical Education) training system adapted to our local needs, aims to train the specialists in 6 domains of core competencies, namely: patient care, medical knowledge, practice based learning and improvement, professionalism, interpersonal and communication skills, and system-based Practice Both examination systems have strong emphasis on medical knowledge with little emphasis of the remaining 5 core competencies. It has become inadequate in assessing a candidate under the current training curriculum.

Methods

Decision to change the examination was supported by Anaesthesiology Residency Advisory Committee (RAC) and discussions with stakeholders over 2 years, The aim is to integrate both examination system into one examination in 3 parts administered by one body and eliminating overlap and redundancy. To ensure validity and reliability, changes to the assessment tools and standard setting methods. Creating a syllabus and blueprint is also formulated afresh taking into account required competencies using milestones and entrustable professional activities as guides so as to be coherent with the current training curriculum.

Results

Rolling out the new examination involved multiple administrative steps including convincing, obtaining buy in and support from existing examiners, RAC members and division of post-graduate school. Approval needed to be obtained from various bodies including Board of Graduate Studies, NUS, Professional Training and Assessment Standards Division and Specialists Accreditation Board, MOH. Ultimately, the details of the change are communicated to other examiners and candidates through roadshows and examiners' training.

Conclusion

We learnt of the need to involve candidates and gather their feedback early, availability of resources for examiners' training and a realistic timeline for acceptance and change.

HARNESSING TECHNOLOGY FOR MEDICAL EDUCATION: WHAT'S IN STORE FOR THE NEXT GENERATION?

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Background and Aims

As the largest institution practicing Obstetrics and Gynaecology (O&G) in Singapore, SingHealth O&G is committed not only to excellent patient care but also to training the next generation of specialists. To achieve this, we have utilised traditional methods of teaching such as lectures, tutorials, live surgery recordings and surgical supervision which have proven to be effective, but sometimes lacking in realism and reproducibility. With the advent of augmented and virtual reality, our team developed in-house teaching modules harnessing these technologies to bring high fidelity medical simulation into O&G training.

Methods

Our team collaborated with IT developers from A*STAR to form a core workgroup to develop the first prototype module, "Understanding pelvic anatomy through abdominal hysterectomy". This topic was selected as hysterectomies are one of the most commonly performed gynaecological procedure that residents would be expected to be competent in. To participate, residents put on the Hololens to interact with the virtual environment, which will begin with a case scenario that evolves to assess the residents on their existing theoretical knowledge on anatomy and hysterectomy. As the scenario progresses, learners will visualise a simulated patient in the operating theatre where they will have the opportunity of actually performing the hysterectomy hands-on, albeit virtually.

Results

We have developed this prototype module over the past 6 months and the outcome has been promising. The team is in the midst of fine tuning the module so that a pilot group of learners can participate and give feedback for improvement. Once developed, this module will serve as an induction for residents to familiarise with performing a hysterectomy before they even enter the operating theatre. We predict that residents who go through these modules will have higher performance standards and have a better learning experience. Patient safety will also be improved as residents no longer "see one, do one, teach one" but instead have ample opportunity to practice on the simulated patient before actually performing surgery. Educators can also use these modules to assess and track residents' progress.

The use of augmented reality and virtual reality technology promises to open a new chapter in medical education and surgical training, with the main advantage of simulating realism in anatomy. These modules can cover both simple and complex content, from simple surgical pelvic anatomy to pelvic lymph node dissection. It can also be applied in obstetrics training, where residents may one day be able to simulate assisted forceps delivery, breech extraction and obstetrics emergency drills. Our team is excited to be at the forefront of this, as being the developer of these modules and not just an end-user gives us the freedom to design programs that are customised to the needs of our residents and the environment they train in.

Conclusion

At SingHealth O&G, we strive to improve the quality of teaching by harnessing technology and this is a fine example of our endeavors. We look forward to sharing our experience with other training institutions locally and regionally to improve our learners' training and groom competent specialists.

A STUDENT-LED TRANSDISCIPLINARY TEAM PROJECT (TTP) IN BIOMEDICAL RESEARCH: DEVELOPMENT, IMPLEMENTATION AND EVALUATION

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Background and Aims

Traditional teaching agendas allow students achieve predictable learning outcomes but disregard flexible and inquiry-based thinking that characterises true discoveries. Student-led teaching models that are more inquiry-based and collaborative would enable meaningful outcomes and groom students to be agents of positive change, in alignment with the scholarship of engagement. Here, we developed, implemented and evaluated a student-led transdisciplinary team project (TTP) which brings together students from varying disciplines to work collaboratively on a common goal with projects having a biomedical angle and potential for impact in wider societal concerns. Within the team, some students are engaged in direct research, others in service work, knowledge exchange with community, or building local and international collaborations. The course aims to create a mechanism for student learning in the highest cognitive domain - conduct, collaborate and create solutions to real-world challenges.

Methods

The pilot study of this TTP was quantitatively evaluated by a questionnaire with constructs of experience, preparation, assessment and outcomes in order to probe different aspects of student learning and identify difficulties encountered by students during the enactment of TTP. This TTP was also qualitatively evaluated by exploratory focus group meetings and individual interviews. The qualitative evaluation included open-ended questions with constructs guided by data emerging from prior questionnaire. Evaluation of impact on student learning was determined by assessing student teams' project outputs in alignment with course learning outcomes and fulfillment of specific student project deliverables.

Results

Student evaluation indicated positive impact in the scholarship of engagement. Students are able to identify unmet societal concerns by engaging with the community and addressing these in their research projects. The educational experience from TTP enabled students to acquire good research skills while upholding the highest standards of ethics. Students collaborated effectively across disciplines to create inquiry-based solutions to real-world challenges and communicated their research findings to the stakeholders of the research.

Conclusion

Transdisciplinary team project experience allowed students to not only develop good research, communication and project management skills but acquire the sense of ownership in addressing the needs of society around them.

ASSESSMENT OF THE FLIPPED CLASSROOM OF TEACHER EDUCATION WITH IRS IN DENTAL POSTGRADUATE YEAR TRAINING

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Background and Aims

The Ministry of Health and Welfare (MHOW) has formulated the Dental Postgraduate 2-year-period (DPGY) training program which implemented by Joint Commission of Taiwan (JCT) since 2010 in Taiwan. The DPGY trainer should take course which held by JCT including teaching skills, assessment skills and the content of DPGY training program, etc. It is expected to make trainers understand the training programs, achieve the goals of training curriculum and enhance the consensus on evaluation methods. In addition, to build relative training evaluation of effect, evaluating skills and appraisal standards through the project.

Methods

Training courses for trainers includes lectures and group discussions which are as follows: (1)The instructor introduces the outline of DPGY training program ,course design and evaluation methods, (2)Play a situational video, (3) The trainers make a pre-assessment to evaluate the performance of trainees in the video by using Interactive Response System(IRS), (4)The trainers have a discussion and exchange their opinions, (5)The trainers make a post-assessment by using IRS. The object of this study were the holistic dentistry course for trainers in 2018. We used the Mini-CEX as an assessment tool. The score between 1 and 9 points: 1 to 3 points represents unsatisfactory, 4 to 6 points represents satisfactory, 7 to 9 points represents superior. Each of the assessment themes includes seven assessment items.

Results

The results showed that there were significant difference after the training process. On the other hand, we found the score was more centralised and the differentials decreased which means reach a consensus. The statistics of each item were as follows:

1. Medical Interview Skills: The score of pre-assessment was 6 point (34%) and the post-assessment was 5 point (31%).

2. Oral and Maxillofacial Examination Skills: The score of pre-assessment was 6 point (27%) and the post-assessment was 4 point (37%).

3. Humanistic Qualities/ Professionalism: The score of pre-assessment was 5 point (40%) and the post-assessment was 4 point (39%).

4. Clinical Judgment: The score of pre-assessment was 6 point (28%) and the post-assessment was 4 point (42%).

5. Counseling Skills: The score of pre-assessment was 6 point (28%) and the post-assessment was 4 point (38%).

6. Organisation/ Efficiency: The score of pre-assessment was 5 point (52%) and the post-assessment was 4 point (59%).

7. Overall Clinical Competence: The score of pre-assessment was 4 point (50%) and the post-assessment was 4 point (47%).

Conclusion

In order to monitor the teaching quality, maintain a consistent among trainers performance. We have established a coherent training program, assessment criteria, teacher consensus and evaluation system in the program.

D1047

APPLYING MIXED METHODS FOR NEEDS ASSESSMENT OF FELLOWSHIP TRAINING PROGRAMME FOR MONGOLIAN HEALTH PROFESSIONALS

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Background and Aims

Continuing Medical Education is essential for improving health care services, especially in the developing countries. There have been various fellowship training programs provided by foreign countries to improve health professionals' capacity in Mongolia. Most of the previous local and international fellowship training programs were not based on targeted needs assessment and well-developed strategies. Therefore, we aimed to identify targeted training needs and develop a comprehensive strategy for the future fellowship training program for Mongolian health professionals.

Methods

We used mixed methods for this study; survey, interview and consensus meeting with key stakeholders. We conducted survey with 60 health professionals, including various professions such as doctors and nurses from central hospitals. The questionnaire has 5 items which identify the major needs and obstacles of health professionals' development; priority areas and preferred trainees for future training; and effective training approaches. A total of 38 stakeholders from the government organisation, central hospitals and medical university participated in the interview. We held a consensus meeting with 12 key stakeholders to share the results of the survey and interview and to make a consensus framework.

Results

The survey results showed that the major needs of health care system is improving the skills of health professionals. However poor undergraduate and post-graduate education were the main obstacles. As a result of topic priority, cardiovascular diseases, stroke and emergency care were top areas. We found that some important areas such as obstetrics and gynecology, respiratory diseases and infectious diseases were already covered by the government and international support. So that, priority areas should be decided based on unmet needs and not overlap with other programs. Middle-career physicians were preferred for the training due to their medical experiences, while junior physicians had advantages because of their English level and active learning. The language level, learning styles and experiences were found to be important factors for targeting trainees. Training as a team including various professions such as nurses and technicians was recommended. Building a team across the hospitals and sending them at one time could be effective approach. Six-months training is appropriate for basic and clinical training, but three months is enough for only observational clinical training.

Conclusion

Medical training needs are dynamic and complex so that it requires more deep understanding of the context and setting. Therefore, a mixed method could be an effective way to conduct needs assessment and build a more comprehensive strategy for training programs.

EVALUATION FOR E-LEARNING BASED ON MEDICAL NEAR-MISS/ADVERSE EVENT INFORMATION

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Background and Aims

Patient safety is one of the most important priorities for health providers. Thus, Medical Near-Miss/Adverse Event Information is being collected from 1473 hospitals to prevent any adverse medical events and promote patient safety in Japan since 2004. Some medical institutions refer to the information in their daily practice; however, health care providers are unable to utilise the information by themselves. This study aimed to develop and evaluate e-learning program of Medical Near-Miss/Adverse Event Information for self-development.

Methods

E-learning contents based on the Medical Near-Miss/Adverse Event Information were developed using Adobe Captivate®. The case included in the material involved removing a central venous catheter. To foster learners' thinking processes, the e-learning included 5 steps: 1. hotspot question to select the location of a potential Medical Near-Miss/Adverse Event; 2. match the question asked with the answer for how to cope with the situation; 3: embed answers to check knowledge of solving the event; 4: present real examples from Medical Near-Miss/Adverse Event Information; and 5: hotspot question to check the learner's level of understanding. Twenty-eight nurses aged 28-51 years participated and 20 answered the questionnaire after the implementation of the e-learning program. The logs were analysed to evaluate the learners' thinking processes. The questionnaire with a five-point Likert scale and open-ended questions was used to collect feedback about the amount of questions, visibility, size of the characters, and usability.

Results

Logs: The learning time was less than 12 minutes, with an average of 3 minutes. Twenty-three (82.1%) participants missed the Hotspot question and 15 (53.5%) answered the matching question and embedded questions correctly at the first trial. Thirteen (46.4%) repeated the e-learning program until they could answer all questions correctly. Only one participant repeated the e-learning program after all questions were answered correctly.

Questionnaire: The mean ratings of the amount of question, visibility, size of the characters, and usability of the e-learning program were 3.9, 4.1, 4.2, and 3.5 respectively. The difficulty in understanding the e-learning program was evaluated as adequately easy or difficult for the participants with open-ended questions. Participants stated, "I needed some time to understand what was I required to do," "Hotspot question was difficult to answer and operate," "I could imagine the situation of the Medical Near-Miss/Adverse Event through this opportunity."

Conclusion

The participants were not able to visually perceive where a Medical Near-Miss/Adverse Event might happen. Thus, the e-learning program needs to be added to the Hotspot question and assisted to use it. Additionally, the mean of the learning time was only 3 minutes; therefore, the e-learning program was feasible to be repeated if necessary. The data was shorter than other e-learning programs' average usage time of 5 to 10 minutes. This point is important to develop other e-learning programs for health providers who run busy practices. Furthermore, the participants could easily understand the literal information in this study. These findings suggest that e-learning programs need to be used as an explanatory note about the systems and human factor which causes Medical Near-Miss/Adverse Event.

D1049

INTRODUCING INTER-PROFESSIONAL SIMULATION-ENHANCED TRAINING FOR TEAM-BASED MAJOR TRAUMA RESUSCITATION IN SINGAPORE

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Background and Aims

Khoo Teck Puat Hospital (KTPH) sees a high volume of trauma cases and thus simulation has been introduced to improve patient safety, quality of resuscitation and interdisciplinary collaboration

Methods

Previous centres implementing trauma team training have shown improvement in patient care outcomes. KTPH has started developing both in-situ and centre-based simulation modalities which have their own methods, strengths and challenges of implementation.

Results

We identify the need to address the educational gap which is not met by current training such Advanced Trauma Life Support and Trauma Nursing Course. We developed the in-situ simulation trauma education program (INSITE) using Kern's six-step approach for healthcare education curriculum development, as well as Kolb's cycle of experiential learning.

INSITE commenced in February 2018 and has trained 14 participants, including doctors, nurses and allied health professionals. Evaluation by participants reported a high level of satisfaction, with the majority agreeing that it introduced useful concepts in trauma crisis management and identified gaps in their knowledge and technical skills. The overall rating of the training programme was high, with mean Likert (5-point) scale scores of 4.0 to 4.7. A centre-based KTPH Inter-professional Trauma (SAFE-KIT) course is planned for July 2018, comprising a half-day workshop focusing on trauma resuscitation scenarios with an emphasis on interdisciplinary collaboration and structured post-participation debriefing.

Conclusion

As part of continuing education and training in trauma care, health professionals in KTPH participate in this simulation-enhanced training focusing on crisis resource management, patient safety and major trauma resuscitation. This innovative training also helps to develop broad-based medical and nursing competencies such as communication and teamwork to prepare them to practice team-based care in various settings. Going forward, we aim to streamline team-based trauma resuscitation work processes to achieve better patient care.

SHORT COMMUNICATIONS 8

D1050   **Effectiveness of a Teaching Culture Initiative – The 'Star Teacher Award'**
Grace Tan Ying Hua, Singapore

D1051   **Improving Communication Skills Among Doctors and Nurses in the Children Emergency Department (ED), KK Women's and Children's Hospital (KKH)**
Khoo Su Ann, Singapore

D1052   **Impact of Structured Training Programme in Basic Surgical Skills for First Year Residents of Surgical Specialities**
Tejaswini Vallabha, India

D1053   **Challenges Limiting Use Self-Directed Learning in Postgraduate ACGMEI Programme; Residents and Physicians Perspective**
Manasik Hassan, Qatar

D1054   **Educational Effect of the Multi-Occupational Collaborative "Healthcare Hackathon in Marumori" Involving Non-Medical Experts**
Junichi Tanaka, Japan

D1055   **Evaluation of Students' Clinical History Taking: An Experience in a Medical Teaching Centre in Taiwan**
Hsien An Cheng, Taiwan

D1056   **Self-Directed Learning Readiness and its Impact on PBL Performance**
Tayyaba Azhar, Pakistan

D1050

EFFECTIVENESS OF A TEACHING CULTURE INITIATIVE - THE 'STAR TEACHER AWARD'

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Background and Aims

Good clinical learning exposure is an important component of every nursing student's education. It is during clinical attachments where the student can apply theory into practice. However, students often report awkwardness, feelings of helplessness and unfamiliarity to the environment. This study aims to evaluate the effectiveness of an initiative to improve the teaching culture in the clinical environment.

Methods

From March to December 2017, a monthly Star Teacher Award was introduced. Each Star Teacher of the month, voted by nursing students on clinical attachment, was chosen as they were friendly, acknowledged students, created opportunities, provided feedback and shared their experiences. A 4-point Likert scale feedback questionnaire routinely administered to students after every attachment. Four of eleven questions in this questionnaire were utilised in this study to determine the effectiveness of this initiative. Using the same survey administered from March to December 2016, mean difference was calculated for each question. Independent t-test was used determine statistical significance.

Results

A total of 2472 students from 3 different institutions submitted post attachment feedback questionnaire (2016 - 983; 2017- 1489). Majority of students providing feedback were year 1 students (2016 - 569; 2017 - 504). All questions showed statistically significant improvement in ratings (p < 0.05). Support and guidance from ward staff showed the most improvement (mean difference, 0.12) while knowledge of staff had the least (mean difference, 0.05). Students also commented they felt more comfortable and more welcomed as staff of the ward were friendlier.

Conclusion

Students reported better support and guidance from ward staff after this initiative. This is consistent with studies showing that a friendly ward culture with ample teaching and learning opportunities can create a better and more meaningful clinical experience for nursing students. This study shows that a good clinical environment helps them to grow in confidence in their nursing skills and application of knowledge. Establishing a monthly Star Teacher Award that encourages and recognises exceptional ward staff who are friendly, supportive and keen to teach can potentially improve the overall clinical learning experience of students during their clinical attachment. Establishing a monthly Star Teacher Award that encourages and recognises exceptional ward staff who are friendly, supportive and keen to teach can potentially improve the overall clinical learning experience of students during their clinical attachment.

IMPROVING COMMUNICATION SKILLS AMONG DOCTORS AND NURSES IN THE CHILDREN EMERGENCY DEPARTMENT (ED), KK WOMEN'S AND CHILDREN'S HOSPITAL (KKH)

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Background and Aims

Effective communication is paramount to practicing patient centred care, and cultivating this skill is a vital component in the training of all healthcare personnel. There is an increasing number of complaints in our children emergency department, out of which 60% is related to communication lapses. The team reviewed complaints and compliments received in the Children Emergency department over the last 12 months via emails and feedback forms which helped to identify the needs to be addressed in this workshop.The objective of the workshop is to implement a comprehensive blended communication program to teach and improve the communication skills and improve the confidence level of all staff of the department of emergency medicine in dealing with challenging communication situations as well as to reduce communications related patient feedback over a period of 8 months, from August 2017 to March 2018.

Methods

Gathering qualitative feedback from participants via feedback forms and focus group interviews, as well as monitoring reduction in communication-related complaints in the ED to evaluate effectiveness of the communication workshop.

Results

Immediately after the course, 95% of the participants felts that they were able to frame their communications better.

Focus group interviews revealed 4 themes:

- Increased empowerment of staff ("I felt more empowered when I spoke to parents.", "The course made me feel part of the team and that I was solving issue when speaking to parents."

- Improved focus of communication with parents ("I always tried to focus back on the patient rather than the unimportant issues and that helped.")

- Reduced feeling of incompetence when dealing with difficult parents ("I felt confident immediately after the course and used key words when speaking to parents, rather than going blind.")

- Increased understanding of main issues and parental needs ("Parents usually have a valid point, we just need to figure it out and respect that.")

Conclusion

Good communication skills are an essential component of physician training. Patient-centric communication workshops have been shown to improve emergency department (ED) doctors' communication skills, with a corresponding increase in patient satisfaction and reduction of complaints against ED doctors.

IMPACT OF STRUCTURED TRAINING PROGRAMME IN BASIC SURGICAL SKILLS FOR FIRST YEAR RESIDENTS OF SURGICAL SPECIALITIES

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Background and Aims

Appropriate training and obtaining adequate competency in basic surgical skills is very essential for a fresh postgraduate in surgical specialties to deliver effectively various responsibilities. The present system does not assess these competencies in basic surgical skills before entry into the surgical residency program. The eligibility test focuses mainly on theoretical knowledge. Such residents who have good subject knowledge often lack in skills. This leads to anxiety and low confidence regarding their skills. As most of the surgical specialties are mainly skill oriented, there is delay in allotting graded responsibilities by the faculty and seniors until they are sure of the competencies required. Keeping this gap in mind a short structured training program to address these skills was planned and implemented.

Methods

One hundred and forty two first year residents in various surgical specialties like General Surgery, OBGY, ENT, Ophthalmology and Orthopedics underwent this course in last five years. A two day structured program of 12 hours was planned. The training included very basic surgical skills required in wards, emergency and operating rooms. The areas covered were

1. Universal precautions,
2. Dressing materials and methods,
3. Gowning and gloving techniques.
4. Suture materials, instruments & methods.
5 . Suturing and knotting techniques
6. Incision making and suture removal.
7. Wet lab using animal tissue for tendon repairs and resection and anastomosis of bowel

Demonstration with hands on training in controlled environment of clinical skills laboratory was conducted. Secondary outcome was assessed with retention test by OSCE for available forty three residents.

Results

The immediate feedback suggested that the training was necessary, very useful and perception wise the trainees felt their competencies improved significantly to the extent of 60 -80%. They also opined that these facilities should be allowed to use regularly and all of them opined that they wish to be tested after three months to assess internalisation of skills obtained. Retention test was conducted for 43 available postgraduates in the form of OSCE. Their scores revealed good improvement in the skills by 60-80% suggesting the utility of the training and improvement in the competencies.

Conclusion

Training of various basic surgical skills in a controlled environment improves competencies of fresh postgraduates, boosts the confidence of residents and peers. It reduces time for allotting graded responsibilities in turn improving patients outcome.

D1053

CHALLENGES LIMITING USE SELF-DIRECTED LEARNING IN POSTGRADUATE ACGMEI PROGRAMME; RESIDENTS AND PHYSICIANS PERSPECTIVE

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Background and Aims

Residents at training encouraged to manage their own professional development and have skills of self-directed learning (SDL); residency programme should facilitate integration of lifelong learning strategies into resident curriculum. Study aims to identify challenges to use SDL among paediatrics residents and physicians and to explore potential recommendations that can overcome challenges

Methods

Cross-sectional prospective paper based validated survey conducted among pediatricians (faculties and residents) at Hamad Medical Corporation- main tertiary teaching hospital in Qatar. This survey included details of demographics , perception for SDL and variable challenges such as; personal, knowledge, skills to use self-directed learning in clinical practice, questions offered objective answers of utilising 3-point Likert scale (agree, disagree and natural) that can be used to perform statistical analysis.

Results

A total of 100 (50 pediatricians and 50 residents in training) completed the survey. Nearly (90%) perceived lifelong learning as necessary to physician's carrier among both group. 72 % of residents considered lack of balance between social life, clinical workload and learning obligation throughout residency training as a main barriers compared to (42%) of physicians (P =0.010), different culture and medical background reported by (45%) of residents and (23%) of physicians (P= 0.073). Both residents and faculties identified similar areas of challenges; Insufficient understanding of how to construct an effective individual learning plan (30%), lack of time to create plan for (ILP) and to apply it (28%), lack of monitoring (qualified teacher/ adviser) in ILP (24%), lack of support from residency programme (18%)

Conclusion

Residents and faculty in this study placed a high value on SDL and perceive it as beneficial for promote academic advancement. They identified several challenges to use and implement SDL in postgraduate clinical setting. Barriers were related to their learning level, programme level, external environments, in addition to differences in undergraduate medical training and multi-cultural background of trainees and physicians. Allow residents to have protected time and resource for teach SDL, implement hands-on workshop in their curriculum, faculty development to facilitate SDL, regular meet with advisor to discuss ILPs and evaluate process can overcome these obstacles.

EDUCATIONAL EFFECT OF THE MULTI-OCCUPATIONAL COLLABORATIVE "HEALTHCARE HACKATHON IN MARUMORI" INVOLVING NON-MEDICAL EXPERTS

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Background and Aims

In rural medicine, time and distance are challenges for movement because of the vast areas being covered. Information technology (IT) is a method that can solve such problems. Through IT, information can be mutually exchanged irrespective of time and distance. IT can also be applied to support medical care at a distance, thus possibly improving the labour shortage of medical staff. Medical professionals are end-users of IT and medical innovations, and in general, IT engineers are not medical experts. This often results in ineffective healthcare solutions with poor adoption rates and few opportunities for their consultation. Here, we discuss the "Healthcare Hackathon in Marumori Town" as an event for exploring solutions using IT to address such problems in rural areas. A Healthcare hackathon is an event where medical professionals, engineers, designers, and business people come together to increase their understanding of issues and create solutions on the theme of medical issues. Therefore, this event is attended by participants who work far beyond the framework of medical care. In this study, we explored mutual learning effects by cooperation between the medical professionals and non-medical experts.

Methods

This event took place for two days. The lectures discussed observations on rural medical problems, their current situation, and the potential applications of IT. The participants were then divided into small groups to discuss how such problems could be addressed using IT. We conducted a comparative study using a questionnaire before and after this activity.

Results

The study included 49 participants who were medical personnel, IT engineers, administrative officials, students, business people, and residents of the town. The preliminary questionnaire was completed by 19 participants and the post-event by 21. Most participants agreed that the event involved "transformation of consciousness through exchanges with diverse human resources" and "understanding of job content related to other occupations." More than half of the participants agreed that the event led to "understanding the importance of cooperation with multi-occupations" and "improving my own motivation." In the post-event questionnaire, many participants from non-medical professions noted that "regional medicine / medical treatment was well understood."

Conclusion

Many multi-occupational collaborations refer to issues pertaining medical professions; however, by conducting such activities, which make full use of the expertise of non-medical professionals, it is possible to improve the collaboration and awareness of participants regarding IT solutions in the health care field. Thus, a "Healthcare Hackathon" can be useful in spreading knowledge among non-medical experts.

EVALUATION OF STUDENTS' CLINICAL HISTORY TAKING: AN EXPERIENCE IN A MEDICAL TEACHING CENTRE IN TAIWAN

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Background and Aims

Medical education is an important build-up training for physicians, nurses, pharmacists, and other medical personnels, and also the key evaluation point for hospital accreditation in Taiwan. During actual participation in the medical education for undergraduate health professional students (clerks and interns) in our hospital, a medical teaching centre in Taiwan, we found that the accuracy and completeness of clinical history taking still have much room for improvement. Most research papers utilising extended version of Kirkpatrick's educational outcomes model reported changes to level 1, 2a, or 2b, fewer papers reported changes to level 3, 4a, or 4b. On the issue of medical history taking, we raise a quality research design for medical education outcome model, with potential availability in applying outcome changes in all levels of extended version of Kirkpatrick's educational outcomes model.

Methods

About the teaching context of history tracing of present illness, four key points were applied, including symptoms/signs and timing, time line tracing, clarification of history details, and information collection. The teaching content design applied key words, terms, and concepts as embedded context. Questionnaire architect included four responded items from learners: (1) teaching course satisfaction (level 1), (2) pre- and post-test of learning content, including present illness, past history, family history and others (level 2b), (3) willingness to apply learned content in future medical recording, including past history, recent medication, past operation and hospitalisation (level 2a, level 3, and potential 4b, 4a), (4) self reflection on need-to-improve points (potential level 2a, 2b, and 3, 4b).

Results

The application of this questionnaire design and teaching context of history taking in the in-hospital education of undergraduate medical students demonstrated clear and distinct outcome. From the response of medical education outcome questionnaire, we can see the satisfaction of learners, the content of learning, their reflection and their attitude for future application.

Conclusion

The design of teaching context in history taking can help medical students to expand their thinking process as well as provide more comprehensive care for patients. This medical education questionnaire design can also be applied to different areas of medical education.

D1056

SELF-DIRECTED LEARNING READINESS AND ITS IMPACT ON PBL PERFORMANCE

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Background and Aims

SDL is defined as a learning methodology in which students take the initiative of identifying their own learning needs, preparing their learning outcomes and learning resources. Students choose appropriate learning strategies and evaluate the learning outcomes. SDL is an embedded component of medical curricula that adapt problem based learning (PBL). This study aims to identify the effect of SDL on students' performance in PBL and the students' readiness regarding SDL.

Methods

It is a Quasi-experimental study the PBL scores at the beginning of the session were compared with those at the end of the session. The students were also given validated questionnaire on "Self-Directed Learning Readiness Scale" aimed to assess three main components: self-management, desire for learning and self-control.

Results

PBL scores before and after exposure to readiness towards SDL showed significant difference (P=0.00). According to the Self-Directed Learning Readiness Scale the mean scores for the three components before and after exposure to SDL were as follows with highest aptitude for self-control after exposure (4.5±0.069) while before (2.6), followed by self-management before (3.99±0.071) and after exposure (2.48) and the mean score for the desire of learning was (3.997±0.068) after exposure and 2.43 was before exposure to SDL.

Conclusion

The present study revealed that self-directed learning significantly affected the students' performance in PBL. SDL readiness showed that the students had the ability for self-control, they were highly motivated for self-learning and had self-management skills.

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D1057

EMBODIED SPATIAL PRACTICES AND THE POWER TO CARE IN THE INTENSIVE CARE UNIT

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Background and Aims

Interprofessional conflict is a complex but common phenomenon in the intensive care unit (ICU), its dynamics best examined through the affordances of ethnographic approaches. In particular, ethnographic attention to embodied spatial practices-what people do in space-has the potential to make visible how care hierarchies are reproduced and challenged in everyday healthcare delivery practices. Greater attention to these embodied dynamics can enable clinicians and their professional allies learn more about their own and each other's practices within the socially, emotionally, and politically fraught spaces of the ICU.

Methods

Our analysis draws on ethnographic observational and interview data collected across four ICUs in the United States. Using Henri Lefebvre's (1991 [1974]) theoretical framework for exploring spatial practices, we undertook an analysis of ethnographic vignettes to illustrate how the power to care is divided between physicians and nurses, and between clinicians and patients.

Results

Three ethnographic vignettes-"The Fight," "The Parade" and "The Plan"-explore how embodied spatial practices underlie the complexities of healthcare delivery, making visible the hidden narratives of conformity and resistance that characterise interprofessional care hierarchies. In "The Fight" we see Zoe-a nurse-fight to hear and to be heard, using her small body to resist and contest care hierarchies. In "The Parade" we see Mr. Grey-a patient with an addiction problem-temporarily disrupt care hierarchies, but returning to his secluded bed space. In "The Plan" we see another nurse, James, mobilise his imposing body and manage his patient's vulnerable embodiment for a greater vision of patient care than that originally considered by physicians.

Conclusion

Lefebvre's triad of conceived space, lived space, and perceived space frames a nuanced picture of the role that bodies in the production and negotiation of power relations among nurses, physicians, and patients within the ICU. The orderings of bodies in space are consequential: seeing them is the first step in redressing those that threaten helpful interprofessional collaboration and are potentially harmful to patients.

D1058

JAPANESE NURSE-MIDWIFERY STUDENTS' PERCEPTION OF FLIPPED LEARNING ABOUT ASSESSMENT PHASE OF THE NURSING PROCESS ABOUT THE DELIVERY STAGE

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Background and Aims

In Japan, along with the declining birthrate, the number of delivery which nurse-midwifery students have experience in the clinical practice has been decreasing. Fundamental knowledge is necessary for good practice in clinical situation, and learning effect is higher by adopting multiple learning methods such as e-learning and simulation. Therefore, flipped learning is expected as one of strengthening their clinical skills effectively and efficiently within a limited number of the delivery. However, there are limited studies about flipped learning for nurse-midwifery students. We have utilised flipped learning as a means to learning assessment of nursing process about delivery stage before clinical practice since 2017. The study aimed to report on nurse-midwifery students' perception of flipped learning before and after it.

Methods

The learning theme of flipped learning was about assessment phase of the nursing process about delivery stage using movies, which would have experience relatively during clinical practice. The movies for homework included six simulated clinical situations: (1) telephone call from a parturient woman, (2) accept hospitalisation, (3) latent phase in first stage of delivery, (4) active phase in first stage of delivery, (5) second stage of delivery, and (6) third and fourth stage of delivery. Each of movies was about 15-20 minutes long. Students were required both of watching and assessing each simulated delivery scenes individually before the class. During the class, they discussed their own assessments ideas of the nursing process in pair and groups. The survey were conducted using self-reported questionnaires assessing about two things both before and after the class: (A) attention/interest about e-learning, and (B) relevance between movie contents and actual clinical situation. The questionnaires were administrated with five points Likert scale for 14 nurse-midwifery students (all women) at Saku University in April (before) and June (after), 2018. In addition, free descriptions of usefulness and improvement about e-learning were assessed after flipped learning. The data was statistically analysed by using Wilcoxon signed-ranks test.

Results

The study population consisted of 14(before) and 12(after) nurse-midwifery students. 11 students (78.6%) have experience of using e-learning in the past. The attention/interest about e-learning before/after flipped learning were changed from 3.50 ± 0.86(mean$\pm$SD) to 4.00 ± 0.74($p=0.29$, $r=0.35$). The relevance before/after flipped leaning were changed from 4.00 ± 0.96 to 4.08 ± 0.79($p=1.00$, $r=0.05$). From the free descriptions, the usefulness of flipped learning was described as "movies accelerate understanding the delivery situations," "repeatable" and "sharing each own assessment during the class expanded perspective." The point should be improved such as "some noises were mixed during the movie".

Conclusion

It was suggested that flipped learning was an opportunity to pay attention and have interests in e-learning, though this study has a limitation of the study population. Flipped learning was considered as a supportive tool for accelerating to assess the delivery situation for nurse-midwifery students. They feel difficult to assess in the clinical practice, because of requiring the speed of assessing of parturient women. Therefore, especially flipped learning with movies before clinical practice, which means they could have enough time to ponder, could be expected useful for education for delivery assessment.

D1059

HOLISTIC PRIMARY CARE PROGRAMME FOR INTERN IN PAEDIATRIC WORD -AN EXPLORATORY PILOT STUDY

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Background and Aims

Bio-psychosocial model (BPS) emphasise total patient care not only focus on the disease, but also the emotional and social systematic perspectives. The way how to integrate the holistic care concept into year 7 medical student's primary care at one pediatric word was explored.

Methods

A three months interval with three groups of rotated intern courses was conducted. Every 4 rotated interns in each month will receive a mini-lecture of holistic patient care during orientation and communicate the aim of the pilot study. The application of whole person care concept started from writing of admission note (AN) and progress note. Revised AN will discussed with every medical students in group meeting held in 2 days interval. The admission order also has revised by senior paediatric resident emphasised on the spirit of holistic care. During final group debriefing process, a self-evaluation holistic primary care checklist was done to evaluate the feasibility of the aim.

Results

12 interns complete the pilot exploratory study in three months and 12 whole persons care AN generated. Each section of AN over personal history (occupation, marital status, sexual identity, religion, place of residence, referring/ family physician or medical contraindication such as blood transfusion), family history (ethnic origin, relevant to history of presenting illness, risk identification among family members), social history (smoking/drinking habit, religion, special insurance, and cultural sensitive issues), psychological assessment and identify the requirement for referral were emphasised. The generation of treatment plans also address on evidence-based practice, spirit of share-decision making, inter-professional team care and consultation, and patient empowerment model during educational plans. The follow up plans was rapidly combine with discharge preparation services and home visiting program if indicated. Patient's or parents' voice were quoted and typing into medical chart. Debriefing section and self-evaluation checklist revealed evidences of whole person care events carried according to each section of AN and progress note.

Conclusion

Integration the spirit of whole person care into structured AN and follow the admission order produce more patient centred and more comprehensive clinical care. Extensive study and further evaluation the effectiveness of care quality is mandatory.

D1060

A CRITICAL EVALUATION OF THE ADMISSION TOOLS USED IN THE ASIA-PACIFIC CONTEXT

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Background and Aims

In the past decade, there has been an increased focus on improving the existing admission tools that are commonly used for entry into medical school. While the assessments of cognitive skills, such as standardised tests and academic performance, have been shown to predict meaningful future outcomes in medical school, the assessment of non-cognitive skills continues to be a challenge. Frequently used tools such as letters of recommendation and personal statements have been shown to produce unreliable information and demonstrate little to no predictive validity (Siu & Reiter, 2009). Interviews in the multiple mini-interview (MMI) formats have demonstrated tremendous success in predicting future performance in both medical school and in clinical practice (Eva et al., 2012). However, due to its high cost of administration, programs are only able to interview a small subset of the applicants, potentially filtering out many qualified candidates prematurely (Rosenfeld et al., 2008). Situational judgement tests have shown some promise in offering programs a low-cost, non-cognitive assessment of applicants, but the validity evidence collected thus far is still fairly early, and more work is needed to accumulate further evidence of its utility (Dore et al., 2017). While these discussions have been on-going in the medical education literature, the majority of the research has come from the North American and the European context. It is unclear if the challenges faced by admission committees in the West are also shared among those in the East, and if there are other unique obstacles that medical school admissions in the Asia-Pacific region need to overcome.

Methods

A systematic review was conducted to identify the existing admission tools used on the Asia-Pacific region (e.g., China, India, Japan, Singapore, Australia).

Results

Most institutions across the Asia-Pacific region place a strong emphasis on academic metrics or the cognitive competencies of applicants. Reference letters, personal statements, and interviews were the most commonly used tools to assess the non-cognitive competencies of their applicants. Unlike in North America where admissions to medical school occur after students obtain an undergraduate university degree, applications to medical school in the Asia-Pacific region tends to occur right after high school. While current discussions in the West are directed at improving diversity among the medical student population, these discussions are relatively muted in the Asia-Pacific region. Additionally, resources tend to be more limited for many of the Asia-Pacific medical programs compared to medical programs in North America and Europe, severely limiting the ways in which medical admissions can be modified or adjusted.

Conclusion

While there are some parallels between medical school admissions in the Asia-Pacific region, North America and Europe, there are also some unique challenges that they each face. All institutions across the world have typically focused quite heavily on ensuring that students are entering medical school with strong cognitive competencies, but the assessment of non-cognitive skills have taken a backseat. While medical student diversity remains to be a primary focus of concern for schools in the West, resource limitation seems to be the main concern for schools in the East.

Reference

Dore, K. L., Reiter, H. I., Kreuger, S., & Norman, G. R. (2017). CASPer, an online pre-interview screen for personal/professional characteristics: prediction of national licensure scores. Advances in Health Sciences Education, 22(2), 327-336.

Eva, K. W., Reiter, H. I., Rosenfeld, J., Trinh, K., Wood, T. J., & Norman, G. R. (2012). Association between a medical school admission process using the multiple mini-interview and national licensing examination scores. Jama, 308(21), 2233-2240.

Rosenfeld, J. M., Reiter, H. I., Trinh, K., & Eva, K. W. (2008). A cost efficiency comparison between the multiple mini-interview and traditional admissions interviews. Advances in Health Sciences Education, 13(1), 43-58.

Siu, E., & Reiter, H. I. (2009). Overview: what's worked and what hasn't as a guide towards predictive admissions tool development. Advances in Health Sciences Education, 14(5), 759.

D1061

IMPACT OF PHYSICAL EXAMINATION TEACHING ASSOCIATES ON POSTGRADUATE NURSING STUDENTS

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Background and Aims

Physical examination teaching associates (PETAs) are lay people who are able to provide instruction and feedback on physical examination techniques. PETAs could potentially save faculty time and improve student experience in learning physical examination. The aim of this study was to evaluate the experience of postgraduate nursing students after a teaching session with PETAs.

Methods

This was a retrospective review of student feedback after a teaching session for postgraduate nursing students. PETAs were engaged to teach physical examination of the respiratory, abdominal and neurological systems. Teaching sessions were conducted in small groups of 6 to 7 students where the PETA were the main instructors. One faculty member was present to serve as content expert and to supervise the activity. Student feedback was collected immediately after the activity and responses were recorded on a Likert scale of 1 to 5. Qualitative comments were also collated.

Results

Twenty five postgraduate nursing students provided feedback on 4 teaching sessions with a PETA. All students felt that the PETAs were knowledgeable and confident. They also agreed that the PETAs provided timely feedback and they had the opportunity to correct their mistakes and try the examination again. In addition to the physical examination skills, the PETA also helped the students to be more aware of patient comfort and patient safety during physical examination.

83-96% were confident to examine a real patient after the PETA session for the 3 examination systems. 96-100% of students in each session thought that PETA should be used to teach physical examination skills to nursing students. All students felt that PETA instruction should be used instead of other methods that they have previously been exposed to for abdominal and neurological examination.

From the qualitative feedback, students appreciated being exposed to the layperson's perspective on physical examination. The immediate feedback and the opportunity to correct mistakes was highlighted. They felt that the focus on communication with clear instructions as well as considering the patient's perspective helped with developing their professionalism.

Conclusion

PETAs are effective in teaching physical examination to postgraduate nursing students. It is acceptable to the students and provides the opportunity to focus on professionalism and communication skills that complement the physical examination skills.

D1062

CORE COMPETENCY DEVELOPMENT ELEVATION SYSTEM OF STUDENTS IN SHANTOU UNIVERSITY MEDICAL COLLEGE (SUMC): A CROSS-SECTIONAL SURVEY BASED ON THE ASK-SEAT EVALUATION SYSTEM

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Background and Aims

SUMC had already built up a large-scale follow-up survey assessment model: Attitude-Skill-Knowledge Core Competency Model (ASK-CCM) to elevation core competency development of medical graduates. Knowing the development of medical students' core competency is also very important because it can serve as the guider of our medical education. However, the elevation system of the medical student core competency development hasn't been built up in China. An ASK-SEAT system was built to evaluate the increasing ability as "state, explain, apply and transfer" of the core elements of competency of attitude, skills, and knowledge in SUMC. This study was performed to investigate not only the validity and reliability of ASK-SEAT system but also the core competency development situation of SUMC student.

Methods

A cross-sectional study was done on 2nd, 3rd, and 4th-year students of SUMC. Every student gets a self-assessment questionnaire with 107 questions, the first 11 questions are used to collect their personal information, the rest 96 questions in the form of 5- Likert scale estimate their ASK-SEAT core capacities. Cronbach's Alpha was used to evaluate the reliability of the questionnaires, construct validity of the questionnaires was analysed by exploratory factor analysis (EFA).

Results

The numbers of valid questionnaires from the 2nd, 3rd, and 4th-year students were 206, 207 and 195 respectively. The Cronbach's Alpha of 608 questionnaires is 0.984, suggesting high intrinsic consistency. The EFA suggested that the eigenvalues of the first three principal components in this study were greater than 1, which explained 22.02%, 19.33%, and 10.41% of the total data variation, respectively. This result is acceptable as we have 5, 10 and 8 items in ASK, respectively. The total score for this questionnaires is 480 (96 questions x maximum 5 points for each question). The average score of 2nd, 3rd, and 4th-year students were 268.49±56.95, 303.85±61.89 and 322.07±49.80 respectively. Students in higher grade had the higher average score (F=46.816, P< 0.001). Among all the questions, the scores of operation skills increase obviously from 2nd-year to 4th-year student. In the meantime, there is a positive correlation between overseas exchange experience and the total scores of the questionnaire (P<0.001). However, However, there is no statistical significance between having higher grade-point average (GPA) and the increase in core competency scores (P>0.05). The highest score of the whole questionnaire were questions about humanities, the first of which was to protect the privacy of the patients. The second-ranking was team cooperation.

Conclusion

The ASK-SEAT evaluation system can reflect the core competency of students in SUMC effectively and objectively. Students in higher grade had the better core competency and overseas exchange experience also contributes to core competency level of students. Students in SUMC do well in humanities.

D1063

A MEDICAL EDUCATION APPROACH TO IMPROVE BONE MARROW BIOPSY PROCEDURE BY MEDICAL ONCOLOGY RESIDENTS

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Background and Aims

Training in invasive procedure, such as bone marrow aspiration and trephine biopsy (BMAT) has traditionally been a vital part of residents in oncology education. In our institution, no structured training was initially provided and residents would gain their first practical experience on the patients. Supervisors struggled to provide real-time feedback and direct coaching to the residents. As this procedure was done without sedation, patients were well aware of the situation and the communication between the supervisors and the residents. This could lead to a sense of insecurity and decrease their overall satisfaction on the healthcare service they receive. More importantly, patient safety may be compromised due to the lack of technical skill.

To address this gap, we created a comprehensive Medical Procedure Service (MPS) rotation, combining e-lectures, didactic teachings and simulated practices on mechanical models. The procedures are supervised by the faculty with the primary aims of improving procedural pain in actual patients and obtained trephine biopsy quality.

Methods

Residents were categorized into three groups: 1) having no training, 2) no MPS training (only lectures) and 3) MPS training. For residents who underwent MPS training, they were allowed to perform the procedure on the bone marrow simulator (Bonnie Trainer) multiple times; thereafter a competency assessment on the simulator was conducted with real time feedback provided. They were deemed competent once a core biopsy of at least 1.6 cm was obtained. Upon the completion of the practical training, the residents would be allowed to perform the procedure on actual patients under direct supervision by qualified senior residents or consultants. Pain score and trephine length conducted on actual patients were used as quantifiable healthcare outcomes.

Results

Mean assessment was compared between residents receiving no training, non-MPS and MPS training. Statistics were derived using the student's t-test and a $p \leq 0.05$ was considered significant. For pain score, there was no significant difference between residents, regardless of training provision. As for trephine length, results indicated a significant improvement in trephine length for the MPS group (M = 1.83, SD = 0.33) over the non-MPS group (M = 1.3, SD = 0.5), t(98) = -2.09, p = 0.02. In addition, residents receiving the MPS training had better trephine length than did those with no training, t(25) = -2.3751 , p = 0.0276. There was no significant difference in trephine length between residents having non-MPS training with those who had no training. These results suggest that simulation can significantly improve the trephine biopsy length.

Conclusion

Residents trained on simulators showed improvement in procedural performance by having the appropriate trephine length; hence the training was demonstrated to lead to clinical improvement. Furthermore, the use of simulation has also been demonstrated to lead to improvements in medical knowledge, comfort in procedures and improvements in performance.

SHORT COMMUNICATIONS 10

D1064

USING PHARMACISTS' BASELINE PERCEPTIONS AND KNOWLEDGE TO GUIDE THE IMPLEMENTATION OF PHARMACIST PRECEPTOR TRAINING AT AN ACUTE CARE HOSPITAL

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Background and Aims

Pharmacists serve as preceptors and take on significant roles in training new practitioners including pre-registration pharmacists. Effective precepting skills form the basis for meaningful practical learning experiences. According to the American Society of Health-System Pharmacists, preceptors must demonstrate a desire and aptitude for teaching that includes mastery of the 4 preceptor roles (instructing, modeling, coaching, and facilitating) when teaching clinical problem solving. While formal preceptor training programs are offered by various professional organisations, pharmacists' attendance at such programs may be limited by their institutions' manpower needs and budgetary constraints. We sought to assess and use baseline perceptions of precepting and knowledge of the 4 preceptor roles among our pharmacists to guide the implementation of an in-house preceptor training session at our hospital, and to evaluate our pharmacists' experiences with the session.

Methods

An anonymous baseline survey to assess perceptions and knowledge was conducted. A one-hour pharmacist preceptor training session aimed at defining expectations of preceptors, explaining and illustrating 4 preceptor roles was developed. Participants provided feedback on the session using an anonymous post-session evaluation.

Results

Forty-four pharmacists completed the baseline survey. Most had less than 3 years of precepting experience (84.1%). Most pharmacists acknowledged the importance of precepting (97.7%) and were enthusiastic to take on precepting responsibilities (52.2%). However, most were unaware of the 4 preceptor roles (77.3%) and lacked confidence in their precepting skills. Only 22.7% of pharmacists believed that they were good preceptors and 34.1% felt ready to precept. As compared to less experienced preceptors, seasoned preceptors with more than 3 years of precepting experiences reported greater readiness to precept (71.4% versus 27.0%, $p = 0.023$). As compared to inpatient, more outpatient pharmacists reported inadequate precepting time (90.0% vs 53.8%, $p = 0.043$) and believed that preceptees underperform often due to their own failure to learn (60.0% vs 23.1%, $p = 0.035$).

Among 60 pharmacists who attended the session, 29 (48.3%) completed the post-session evaluation. The session was well-received with most pharmacists reporting that the session was helpful (86.2%) and that they gained new insights (90.0%). The content was applicable to their precepting responsibilities and all pharmacists acknowledged that they plan to utilise at least 1 preceptor role in their future precepting experiences. Most pharmacists believed that in-house preceptor training is as valuable as those offered by external professional organisations (90.0%). Pharmacists were also enthusiastic about additional preceptor training opportunities (72.4%) and most were willing to devote personal time to pursue these (55.2%). Feedback from preceptees, online modules or live sessions incorporating cases and role play were deemed to be the more useful training modalities.

Conclusion

Pharmacists recognise the importance of good precepting and are motivated to enhance their precepting skills. In-house preceptor training is perceived to be useful, applicable and is well-received by pharmacists. Institutions may develop their own pharmacist preceptor training programs that address the specific learning needs of their pharmacist preceptors.

D1065

ESTABLISHING SPECIFIC AND ASSESSABLE LEARNING OUTCOMES FOR MBBS MEDICAL HUMANITIES TEACHING

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Background and Aims

Increasingly, Medical Humanities is becoming an integral part of many medical school curricula as it is recognised that the arts and an understanding of narrative medicine can deepen medical students' understanding of the human condition from the perspective of the patient, family and doctor. From such a perspective, students can better understand their roles as cultural actors in the production and delivery of medical care.

Medical Humanities is a core component of the Lee Kong Chian School of Medicine (LKCMedicine) curriculum in Singapore. Student feedback consistently demonstrates high student satisfaction with Medical Humanities teaching, and suggests the sessions appear to have a profound impact on many students. However, compared with more traditional elements of the curriculum, there can be challenges translating what is gained in these sessions into learning outcomes.

As part of a curriculum review at LKCMedicine, we aimed to establish a new set of learning outcomes for the Medical Humanities course which are specific, assessable and meaningful.

Methods

A review of Medical Humanities provision at educational institutions in Singapore, the UK, South Africa, America and China was carried out incorporating both MBBS and non-MBBS courses. Current learning outcomes at LKCMedicine, and those available from other institutions, were evaluated. A new set of learning outcomes were written and approved.

Results

There were several key findings. First, it is necessary to recognise which graduate outcomes Medical Humanities contributes to, and aids the development of, as students e.g. communication skills, empathy, professionalism, cultural competence, cultural critical analysis, emotional intelligence, self-reflexivity. The performative skills desired for medical and humanities graduates do not always overlap, but they converge in their attention on medicine as a culture.

Second, recognising which elements are assessable is important: developing analytical skills and active engagement in sessions followed by the integration of learning into the process of producing coursework.

Finally, learning outcomes should be meaningful in order to ensure course content is both accessible and relevant.

Conclusion

Establishing well-constructed learning outcomes is important in securing the existence of Medical Humanities in the medical curriculum as well as enhancing the value of Medical Humanities amongst students and encouraging an appreciation of its educational significance in their professional development.

D1066

ACTIVE INTEGRATED LEARNING FOLLOWED BY EFFECTIVE FEEDBACK IMPACT ON EMBRYOLOGY LEARNING

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Background and Aims

Embryology remains to be a valuable part of the medical curriculum. Students, anatomy tutors, and medical educators should be following a proactive approach in finding learning opportunities for embryology teaching. Conventional methods teaching such as lectures and question-answer methods make the students as passive learners and so, effective learning techniques should be used to stimulate the creativity of the students which remodel the students from passive to active learners and create more impact learners. In addition, feedback is one of the most influential instruments, which teachers can practice to improve student learning. In this context, the aim of the current study is to add to the current knowledge about student-centred learning and its impact on students' academic performance, personal and interpersonal skills and to provide directions to improve students learning of embryology using active integrated learning followed by efficient teacher feedback.

Methods

A total of 244 students over the period of three consecutive years from 2015 to 2018 were involved in the study. The pedagogies of a passive learning, active integrated learning and active integrated learning followed by effective feedback were assessed. Quantitative assessment was performed by looking at students' responses to embryology questions in the context of formative and summative exams and comparing it with the end-of-course examinations results. Qualitative assessment was completed through a self-constructed questionnaire. Data were analysed using the SPSS 22 software, and significance was taken at $p \leq 0.05$. No ethical issues were encountered during the process of this study.

Results

The results were mostly in favour of the active integrated learning with effective feedback, where the assessment scores of the students rose significantly along the three teaching methods. Additionally, 82% of students mentioned that the active learning with effective feedback session increased their motivation to attend and 72% agreed that it enhanced student participation. Further improvements can be observed where only 24% agreed on the fulfillment of learning objectives in passive learning, and this rose to 92% in the active learning with effective feedback.

Conclusion

Active learning has been observed while learning embryology to result in better outcomes for the students. In addition, students learning embryology using active integrated learning followed by efficient teacher feedback seems to have more impact on students' performance, communication skills and the understanding among learners.

D1067

USE OF SOCIAL MEDIA AMONG DOCTORS WORKING IN A TERTIARY HOSPITAL IN SINGAPORE

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Background and Aims

Easy access and availability of communication tools has allowed doctors to communicate within and outside of their institution more efficiently. While this created more opportunities for collaboration, it is not without its risks. This survey aims to provide insight into the use of social media in doctors and their understanding of their social media and image messaging privacy account settings.

Methods

An online anonymous survey was sent out to all doctors in the National University Hospital of Singapore by email from March to May 2018. This survey contained questions to assess their engagement in social media, privacy concerns.

Results

Nine hundred and thirty one doctors were surveyed. Of the 119 responses received, 48.7% (95% CI: 39.7%-57.7%). Fifty-eight percent (95% CI: 49.1%-66.9%) surveyed were from the 26-35 years age group, which corresponded to 54% (95% CI:45.0% -63.0%) working as medical officers/registrars. Fifteen percent (95% CI:8.6%-21.4%) were 45 years or older. Medical specialities formed the bulk of the respondents (72.3%) (95% CI:64.3% -80.3%) . Fifty-eight percent (95% CI: 49.1%-66.9%) were local undergraduate medical graduates.

Nineteen percent (95% CI:12.0%-26.0%) had a separate phone for work-related matters. There was no correlation between age and keeping a separate phone (p=0.157). Majority, 93.3% (95% CI:88.8%-97.8%) owned a social media account; 95.8%(95% CI:92.2%-99.4%) used an image messaging app. Doctors 45 years or older formed the majority who do not own a social media account (75% versus 10.8%, p<0.01). Seventeen percent (95% CI:10.3%-23.9%) had 3 or more active accounts, and 97.3% (95% CI:94.4%-100.0%) have been using their accounts for more than a year.

Of those who owned an account, 95.5% (95% CI:91.6%-99.4%) and 77.2% (95% CI:69.5%-84.9%) claimed that they understood their social media account and instant messaging settings respectively. However, when asked specific questions (e.g. can anyone search for your social media profile? - only 61.3% (95% CI:52.2%-70.4%)answered correctly) heterogeneous answers were given. 67.5% (95% CI:58.9%-76.1%) reported sending patient data via an instant messaging application to their colleagues. Of this, 57% (95% CI:47.9%-66.1%) would remove patient identifiers prior to sending results. 65.8% (95% CI:57.1%-74.5%) would take photographs of patients using their phone.

Conclusion

Doctors in our institution engage frequently in social media activities. A third actively use an instant messaging application for professional use. Despite the high prevalence of social media use, this data suggests that there is a knowledge gap amongst doctors to use their social media/ image messaging settings appropriately. We propose that continuing medical education sessions can be conducted to fill this knowledge gap.

THE CURRENT USAGE OF MOODLE AND THE FUTURE TASK AT JICHI MEDICAL UNIVERSITY

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Background and Aims

Moodle is a Learning Management System(LMS) which is installed all over the world. Jichi Medical University uses Moodle since 2012. Although Moodle can store several kinds of log data such as access date and scores of quizzes, little analysis of these data has been done. The present study aims to analyse log data of users to find current trends of usages.

Methods

There are about 120 medical students in each year, and all students have their own Moodle accounts. Since the reporting features of Moodle for analysing access data are a little deficient, "Configurable Reports" plugin was used to export the data via SQL. In this study, following two analytics were done. (1) The log data of Moodle from April 2015 to March 2018 were analysed for site-wide usage with following reports: (A) total counts of "viewed" logs and other activities such as "started" logs by month, (B) total counts of "loggedin" logs by day of the week, and (C) the numbers of used modules per year. (2) A specific course for first-year students in 2017 was chosen to analyse the results of activities in Moodle.

Results

(1) (A) While the number of "viewed" logs was highest in 2015 (about 2,000,000), the total counts of logs of other activities were highest in 2016 (about 1,000,000). Some compulsory classes ceased to trial use of Moodle in 2016, which might be the cause of decreasing in 2017. (B) While the average login counts on weekdays were around 20,000 to 30,000 per day, those on weekends were about 10,000 to 15,000. The "loggedin" logs were only saved when students accessed Moodle via web browsers. The students may access Moodle via smartphone or tablet app on weekends. Therefore, the number of "loggedin" logs might be decreased. (C) Feedback, forum, and quiz modules were used many times for activities. However, the total counts of usage of each module were almost the same among years. For example, the usages of quiz modules were: 102 in 2015, 126 in 2016, and 115 in 2017. On the other hand, those of resources such as videos and PDF files were more than 200 in each year.

(2) While about 25% of students tried all of the quizzes twice and more, about 10% tried once or less. There was a low correlation ($r = 0.29$) between the scores on the midterm exam.

Conclusion

While just "viewing" attempts were decreased, other activities were increased. More and more students might use Moodle for active learning. These learning logs in Moodle is might be useful for learning analytics such as finding at-risk students.

However, some courses still used Moodle just as PDF file uploader, which might be good to increase the usage of Moodle, but would be better courses with some instructional design. Faculty and staff development courses of introduction for using Moodle and the instructional design of e-learning are needed to make more effective and efficient courses for blended learning.

ASSESSMENT ON THE QUALITY OF EDUCATION AND TRAINING AT VIETNAM MILITARY MEDICAL UNIVERSITY BASED ON FEEDBACK TO QUESTIONNAIRES FROM EMPLOYING AFFILIATIONS

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Background and Aims

In order to assess the quality of novice physicians who had newly graduated from Vietnam Military Medical University (VMMU), a survey was conducted both on 44 military and civilian hospitals that employed VMMU trained medical doctors by delivering questionnaires to directors and heads of personnel offices of above hospitals and collecting their appropriate answers (the answers were preset in questionnaires; the objects just need to mark on relevant ones), during 2015-2016.

Methods

Data obtained from 59 filled feedback to questionnaires were used to testify the level of satisfaction of those hospitals/affiliations providing employment to the VMMU's trained physicians.

Results

The analysed results showed the percentages of employers indicating satisfactory levels for: i) the quality of VMMU's training to produce military and civilian physicians were respectively 50% and 69.7% satisfied and/or highly satisfied, and 46.4% and 21.2% less satisfied; ii) the professionalism of military and civilian physicians were respectively 44.6% and 48.5% satisfied and/or highly satisfied, and 50.0% and 42.4% less satisfied; iii) the professional morality and responsibility of military and civilian physicians were respectively 75.0% and 69.7% satisfied and/or highly satisfied, and 25.0% and 24.2% less satisfied; iv) professional completion for military and civilian physicians were respectively 35.7% and 63.6% satisfied and/or highly satisfied, and 60.7% and 30.3% less satisfied; v) the professional confidence of military and civilian physicians were respectively 25.0% and 48.5% satisfied and/or highly satisfied, and 67.9% and 45.5% less satisfied; and vi) meeting the requirements of professional skills by military and civilian physicians were respectively 57.1% and 48.5% at moderate, and 28.6% and 36.4% at good, and 7.1 and 6.1 at excellent level.

Conclusion

At VMMU, training for military and civilian medical doctors includes both professional skills, competence, and ethics. The above results showed that all surveyed hospitals evaluated that the junior physicians trained by VMMU principally meet the requirements for hospital works, slightly more so for civilian trained physicians than military trained physicians.

D1070

EXPERIENCES IN SIMULATION BASED EDUCATION AND PROBLEM BASED LEARNING IN EMERGENCY MEDICAL CARE TRAINING

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Background and Aims

Simulation plays a vital role in paramedic education, but there is often not enough time spent with real patients during a student's academic transformation before being declared competent as paramedic. As such, learning institutions rely on simulation practice (via SBE) to develop and train competent paramedics in specifically clinical areas. In Emergency Medical Care (EMC), learning institutions apply Outcomes Based Education and SBE to their curriculums and spend very little time on Problem Based Learning (PBL) as the process is time consuming and demand a high level of human resources. This study analysed student's experiences with SBE and PBL in EMC to understand which method of education is preferred and to ascertain which one assists in developing clinical competency. The main objective of the study was to identify which method of education is preferred by student paramedics and which method could indicate and deliver competent paramedics.

Methods

The researchers made use of a literature review and a questionnaire which formed the basis of the study. The questionnaire contained both quantitative and qualitative questions. Before the questionnaires were handed out the participants had to revisit and was instructed in both methods of education namely SBE and PBL. This was done by the lecturers at the academic institution responsible for training namely, at the Free State College of Emergency Care.

Results

The main findings of the research indicated that SBE is preferred over PBL. More research is needed that could possibly look at trends and then assess if interaction with PBL does really mean students favour it more as claimed by research. Both PBL and SBE definitely offer advantages and disadvantages, but it is how the educator presents these educational methods that determine the outcomes and competencies of student learning that took place.

Conclusion

The concluding results were clear that students prefer SBE over PBL, but more evidence is needed to explore the use of SBE and PBL in emergency care training settings. Previous exposure could have caused some bias. Currently OBE and SBE are the main modes of education used in paramedic education as PBL is expensive and time consuming. The indication from students were that they found SBE to enhance their clinical competence.

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D1071   **Using Peer Evaluation to Promote Faculty Professional Development and Competencies**
Dinah Djong, Singapore

D1072   **Should Selectivity Indices of Undergraduate Institutions be Used as a Criteria for Medical School Admissions?**
Scott Helf, USA

D1073   **Attitudes and Practices of Doctors Towards Social Media Activity in the Context of Professional Medical Practice in a Tertiary Institution**
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D1075   **Cognitive Difference Between Examiners and SP Trainers on SP's Performance in a Nationwide High-Stakes OSCE**
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D1076   **Academic Careers in Medical Education: Lessons Learnt from the Sri Lankan Context**
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D1077   **Phenomenon of Burnout and Clinical Correlates Amongst Psychiatry Residents: A Systematic Review**
Sim Kang, Singapore

D1071

USING PEER EVALUATION TO PROMOTE FACULTY PROFESSIONAL DEVELOPMENT AND COMPETENCIES

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Background and Aims

Hospital-based nurse educators play an important role in shaping nurses to realise their fullest potential by influencing them to actualise their professional growth and achieve role competence and proficiency. Faculty development is essential for preparing novice nurse educators for their teaching roles and necessary to keep the experienced educators up-to-date with the current educational approaches and technologies This paper aims to explore the feasibilities and effectiveness of peer evaluation as a means to enhance nurse educators' professional development and competencies in a Singapore acute care hospital with the hope to close the gap between faculty learning and practice.

Methods

A theoretical approach of inquiry was adopted through the review of literatures to develop the understanding of the purposes, benefits, feasibility and effectiveness of peer evaluation for faculty development in the context of nursing education.

Results

Peer evaluation is recommended as the key component for evaluating nursing faculty's teaching. The benefit of peer evaluation includes enhancement of faculty's responsibility for collegial professional growth through systematic appraisal by individuals of the same rank and profession. It has the potential to stimulate professional growth, facilitate teaching effectiveness, promote communication among faculty members and provide an opportunity for peer support. The quality and effective teaching as a result of adequate faculty preparation and development yielded positive learning outcomes and students' achievement.

Conclusion

The literature review has provided a strong evidence on the benefits and effectiveness of peer evaluation in developing the faculty's professional development and competencies. The use of peer evaluation with the recommended strategies to overcome the weaknesses of peer evaluation have a great potential to impact hospital-based nurse educators.The hospital may adopt the most suitable peer evaluation model based on its needs and choose peer evaluation for formative purpose only or to complement annual performance appraisal for the purpose of rewarding faculty who demonstrates higher level of competence or to identify areas for development.

SHOULD SELECTIVITY INDICES OF UNDERGRADUATE INSTITUTIONS BE USED AS A CRITERIA FOR MEDICAL SCHOOL ADMISSIONS?

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Background and Aims

Medical school admissions committees often use selectivity of applicants' premedical colleges as a competitive admissions factor. Barron's Profiles of American Colleges publishes an annual selectivity index, from 0 to 9, ranking pre-medical schools from not ranked (0), non-competitive (1), to most competitive (9), respectively. Does Barron's selectivity index predict medical student success? and, if the answer is "no," should it no longer be considered for admission into medical school?

Methods

2,746 matriculant records, from the Western University of Health Sciences, College of Osteopathic Medicine of the Pacific (COMP), for the classes of 2008 to 2018, were gathered from ProgressIQ and grouped into their respective prematriculation baccalaureate college selectivity cohorts. Relative medical school successes were compared, as measured by their preclinical grade point averages (Pre-GPAs) and performance on national licensing exams (NLEs), namely, Comprehensive Osteopathic Medical Licensing Examination of the United States (COMLEX) 1, COMLEX 2 CE, and COMLEX 3 score. Generalised Linear Model analysis was conducted to identify significant predictors for these three exams. P-value<0.05 was considered to be statistically significant.

Results

When comparing the selectivity cohorts, no statistically significant differences (P >0.05) were observed for Pre-GPAs, or all three levels of NLEs among the 10 Barron categories. For example, students that hailed from the least competitive undergraduate institutions, as classified by Barron's selectivity index, performed as well as those from the most competitive institutions in medical school and on national licensing exams.

Conclusion

At COMP, there is no observable statistical difference in medical school performance between the most and least selective groups according to the Barron's selectivity index. This appears to be the case for Pre-GPAs and all three levels of NLEs. Our study suggests that Baron's selectivity index does not reliably predict medical student success. Therefore, it may not be appropriate to consider Baron's selectivity index as a competitive factor for admission into medical school. for greater generalisability, additional studies of selectivity indices may be warranted.

ATTITUDES AND PRACTICES OF DOCTORS TOWARDS SOCIAL MEDIA ACTIVITY IN THE CONTEXT OF PROFESSIONAL MEDICAL PRACTICE IN A TERTIARY INSTITUTION

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Background and Aims

Awareness and use of social media in health care has become established in recent years. However, this integration of social media with medicine has posed challenges. Doctors have been disciplined and dismissed for inappropriate online posts. Guidelines have been published to handle social media. With these challenges in mind, we sought to understand the attitudes and practices of doctors with respect to social media use in their personal and professional domains.

Methods

An online anonymous survey was sent out to all doctors in the National University Hospital of Singapore by email from March to May 2018. This survey contained case based scenarios involving professionalism, patient-doctor relationship, personal practices of social media use and collegiality.

Results

Nine hundred and thirty one doctors were surveyed. Of 119 responses, 86%(95% CI:79.7%-92.2%) claimed that they were aware that the institution had a social media policy. 84%(95% CI:77.4%-90.5%) did not receive education on the use of social media in medical school, with the exception of those who graduated from an overseas undergraduate programme (42.1% versus 18.0%, p=0.032). 58.8%(95% CI: 50.0%-67.6%) denied receiving continuing medical education or instructions in their postgraduate years.

With regards to social media use, 75.6%(95% CI:67.9%- 83.3%) and 82.4%(95% CI: 75.6% -89.2%) felt it was unacceptable to post photos or radiological imaging of patients on their social media account respectively. 78.2%(95% CI:70.8%-85.6%) would not accept a "friend request" from a patient. 22.7%(95% CI:15.2% -30.2%) felt that it was acceptable to access their social media accounts while on duty while 52.1%(95% CI:43.1%-61.1%) disagreed. 25.2% (95% CI:17.4% -33.0%) were uncertain if this was appropriate. 60.5%(95% CI:51.7% - 69.3%) felt it was inappropriate to post work victories on their social media account while 39.5%(95% CI:30.7% - 48.3%) would consider doing it.

In term of collegiality, 70.6%(95% CI:62.4%-78.8%) felt it was professionally acceptable to post a photo with colleagues at a department event. 37.8%(95% CI:29.1%-46.5%) felt it was acceptable to post a photo of their colleagues drinking alcoholic beverages in a social event on their social media account.

Conclusion

There remains much ambiguity in decision regarding social media use in doctors. Most doctors agree that they need to exercise caution with online posts especially if there is patient involvement. It appears that there is an emerging need for professional guidance with respect to social media use in the undergraduate training of our doctors.

D1074

APPLICATION OF HYPERTHEMIA ANIMAL MODEL ON LABOR PHYSIOLOGY TEACHING

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Background and Aims

Animal models that simulate physiological changes are not only used in scientific research, but are also effective in teaching students. In Vietnam Military Medical University (VMMU), it is rarely to use animal model in labour physiology teaching due to limitation of instruments for simulation of working condition. In this study, we evaluated the effectiveness of using animal models of hyperthermia in labour physiology teaching for medical students at Vietnam Military Medical University (VMMU).

Methods

Fifty military medical students were taught by using hyperthermia animal model. Male rats weighing between 250 and 350g were used for this model. All protocol were approved by the Animal Ethics Committee of the VMMU. Under ketamin anesthesia, left carotid artery of the rats was cannulated with polyethylene tubing connecting to Physiological Pressure Transducer MLT844 (AD Instruments) for blood pressure monitoring. We also used 3 Lead Shielded Bio Amp Cable MLA2340 for EEG monitoring and Nasal Temperature Probe MLT415/D (AD Instruments) for colon temperature monitoring. The animals were then exposed to an ambient temperature of 40°C with a relative humidity of 60% in a temperature-controlled chamber. The physiological parameters of the rats were monitored by PowerLab system and LabChart data analysis software (AD Instruments). Medical students were able to observe the changes of colon temperature, blood pressure and EEG of animal in real time.

Results

All of 50 students understood easily the changes in physiological parameters and mechanism of hyperthermia after learning with animal model. Furthermore, 75% students thought that their experimental skills were improved significantly and also 55% students were interested in labour physiology and they expressed their expectation of doing physiological research in future.

Conclusion

Application animal model of hyperthermia on physiology teaching was not only effective in teaching and learning but also improved the experimental skills of students and ignited their passion for scientific research.

D1075

COGNITIVE DIFFERENCE BETWEEN EXAMINERS AND SP TRAINERS ON SP'S PERFORMANCE IN A NATIONWIDE HIGH-STAKES OSCE

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Background and Aims

Quality assurance of SPs' performances has been recognised as the linchpin of an objective and fair OSCE. In Taiwan, high-stakes OSCE, with 12 stations, has been required as a prerequisite for participating in Step II National Medical Board Licensure Examination. The SPs' Performances were currently done by raters during the examination. However, since the raters have focused mainly on examinee's performance, there is a concern that the raters may not assess the SP's performance appropriately. This study is to assure the cognitive difference on SP's performance between raters and SP trainers are equivalent.

Methods

There were 48 SPs in 2017 nationwide high-stakes OSCE. The case training and performance assessment of these 48 SPs were assigned to 12 trainers. There were also 24 raters assessing both the examinees' and SPs' performance during the OSCE. A total of 47 SP-scenario pairs used for comparison. All the SPs' performances were evaluated using an 8-item rating scale with 5-point rating (1~5 points) for each, the maximum score is 40. We used paired t-test to evaluate the score difference between SP trainer and raters.

Results

When the 8 items were analysed as a whole, the scores for SP's performance are statistically significant from OSCE examiners and SP trainers with the mean score (±SD) as 36.57(±4.48) and 35.19(±5.63), respectively (p=0.0397). When analysing each item separately, the two items related to authenticity: (1) Authentically present with clinical features and moods, Appearance and (2) Make-up match the role play revealed the statistically significant difference (p=0.0013 and p=0.0044). The other six items related to reliability and consistency revealed no significant difference.

Conclusion

The mean total score revealed a significant difference; however, only the two items related to authenticity showed a significant difference when analysing each item separately. This result suggested that, though there was a disagreement on SP's authenticity, the SP's performance assessment by OSCE examiners could still fulfill the reliability and consistency of SP's performance. Both are important for a fair OSCE. Our results suggested that the OSCE examiners serve as the qualified raters to evaluate the SP's performance in high-stakes OSCE.

D1076

ACADEMIC CAREERS IN MEDICAL EDUCATION: LESSONS LEARNT FROM THE SRI LANKAN CONTEXT

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Background and Aims

Medical education is gaining increasing global recognition as an academic career for health professionals. Previous qualitative studies have explored career opportunities and challenges in academia faced by educators with diverse professional backgrounds. However service and research expectations may vary across regional contexts different to the higher education milieu where these studies were conducted. Sri Lanka has a unique culture in academic medical education with a WHO regional teacher training centre established four decades ago. We therefore explored the perceptions of Sri Lankan medical educators on career pathways and academic practice.

Methods

Semi-structured interviews were conducted with eleven medical educators in different stages of their careers from junior lecturers to Deans of their medical schools, representing six of the eight medical faculties for undergraduate training and the national institute for postgraduate training. All but one of the participants were medical graduates. Most had formal postgraduate qualifications in medical education. Questions explored entry to their careers, rewards and challenges, and approaches to practice. Transcripts were systematically coded and analysed through the method of framework analysis. The analysis was informed by Bourdieu's concepts of habitus, capital and practice.

Results

The habitus or the personal dispositions for career entry included a passion for teaching and to be an academic, and a need to change how their learning as students was supported. Entry of senior/mid-career academics were encouraged by visionary institutional leaders while early-career academics were inspired through medical education experts acting as mentors.

Career rewards included working with global experts and educational scholarship, as well as acceptance from faculty colleagues and making evidence-based curricular changes. Challenges were interrelated and included clinical faculty perceptions that the career is an easier option not grounded in context, resistance to curriculum change, a hierarchy where providing advice to senior academics on teaching practice was difficult, and variable support by institutional leadership.

In this context the capital or forms of socio-cultural power were variable and adaptable. These included establishing oneself as an expert through faculty development, contributing to a national role while taking on essential institutional support roles, and gaining recognition for the discipline by creating a speciality college and specialist training programme. Perceived attractiveness of a greater role or contribution outside Sri Lanka, and limited involvement of other health professionals as medical educators were recognised as threats to sustaining capital. Based on the habitus and capital, practice as medical educators included working collaboratively with other faculty members to make small changes and supporting them when requested, doing research to contextualise global best practices, and managing change without taking criticisms personally or compromising on educational principles.

Conclusion

Medical education careers in Sri Lanka are evolving towards a strong capital and a distinct practice. The role of medical educators in faculty development and curriculum support services is well accepted among academia. However their academic role should be strengthened with recognition as a discipline and support for educational scholarship.

PHENOMENON OF BURNOUT AND CLINICAL CORRELATES AMONGST PSYCHIATRY RESIDENTS: A SYSTEMATIC REVIEW

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Background and Aims

Burnout syndrome is characterised by the presence of emotional exhaustion, depersonalisation, and decreased sense of personal accomplishment and is often associated with cynicism and reduced personal efficacy. Whilst burnout is more prevalent in physicians compared to age-matched non-medical professions, and is frequently accompanied by anxiety, depression, substance use, and suicidal ideation among healthcare professionals, it is less examined amongst psychiatry residents which can affect their learning trajectory. This study aims to systematically review the extant data available on the prevalence of burnout and clinical correlates amongst psychiatric residents.

Methods

A systematic literature review was conducted on all studies which focused on the prevalence and/or associated clinical factors between 2000 to 2018.

Results

This review included 13 relevant papers and found a relatively high prevalence of burnout among psychiatry residents up to 40%. Clinically, burnout was found to be correlated with increased work hours, use of mental health services, discontinuation of training, poor perceived quality of care and supervision, insufficient clinical supervision, and negative emotions. Although only effective in the long run, limited data suggest that interventions proven effective among residents included organisation-directed interventions such as work hour limitations and call structure changes.

Conclusion

The limited studies behoves the need to better understand predictors of burnout amongst psychiatry residents related to training (such as teaching support, progression), learning environment and community of practice, personal (such as resilience, coping, autonomy, personality) and cultural factors with the aim to support more extensively those residents at risk of suffering burnout.

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Dong Lijuan, Singapore

D1079   **Evaluation of the Readiness and Confidence of Junior Doctors and Student Interns Prior to a Surgical Rotation**
Darren Chua, Singapore

D1080   **Bridging the Gap in Health Professionals from Novice to Advanced Practitioner: A Practical Framework**
Roy Rasalam, Australia

D1081   **Enhanced Laboratorial Competence of Medical Students by Using Computer-Based Learning Method with Labtutor System**
Nguyen Thi Hoa, Vietnam

D1082   **Establishing a Database to Understand Learning Styles, the Risk Attitude, and the Performance of Laparoscopic Skills of Medical Students**
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D1083   **Evaluating the Outcomes of an Undergraduate Internal Medicine Elective Program at an Academic Tertiary Healthcare Institution**
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D1084   **Relationship between Academic Record and Self-Assessment of Competencies through 6-Year Medical Education Programme**
Katsuhisa Waseda, Japan

D1078

INTER-PROFESSIONAL EDUCATION IN ACTION: FROM DESIGN TO DELIVERY

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Background and Aims

Introduction of interprofessional education (IPE) in pre-professional education curriculum helps prepare collaboration-ready healthcare workforce to meet care needs of our population. Interprofessional collaboration (IPC) in healthcare prevents fragmented care delivery for better patient outcomes. Clinical educators should incorporate IPE into clinical curriculum to offer authentic learning experiences for students. The aim of this study was to determine the effectiveness of a purposefully designed 3-hour IPE workshop to healthcare undergraduates on a primary care posting by the joint effort of clinical educators from three disciplines.

Methods

This study employed a pre-post self-assessment survey design to collect quantitative data complemented by 3 open-ended questions to obtain qualitative data. The survey instrument was a validated modified questionnaire on Student Perceptions of Interprofessional Clinical Education - Revised Version 2 (SPICE-R2, =.85). It consists of 10 five-point Likert scale items across 3 domains, namely interprofessional teams and team-based practice [4 items, =.85], roles/responsibilities for collaborative Practice [3 items, =.76], and patient outcomes from collaborative practice [3 items, =.78]. Data was collected during the IPE workshop from 27 Year 4 medical students and 25 Year 3 nursing students from two medical schools, of which 57% was male students and 43% was female. Quantitative data was analysed with SPSS version 22, while qualitative data through thematic analysis.

Results

The response rate for the survey was 96% (50/52) for pre-survey and 94% (49/52) for post-survey. There was a significant overall score increase of SPICE-R2 (M=.33, SD=.80, p=.0001, d=.82) among participants after the IPE session. However, this change was not seen in all three subscales of the instrument. Specifically, significant increase was noted in both Team (M=.32, SD=.89, p=.0005, d=.72), and Roles (M=.50, SD=1.03, p<0.0001, d=.96) related subscales, but not Outcome (M=.17, SD=1.04, p=.103, d=.33) related subscales. The pattern of change varied slightly between medical and nursing students. Nursing students showed no significant change overall, while medical students showed a significant overall increase, with the most increase in Understanding Other Professions (M=.72, SD=1.61, p<0.0001, d=0.89). Male and female students showed no significant difference in responding to the SPICE-R2 items. Three themes namely, role clarity, effective communication for teamwork, better and patient-centred care emerged from qualitative data. Participants reported increased interest to learn and work collaboratively with other professions in future. They perceived that adopting a patient-centred approach with better communication and teamwork improved patient care.

Conclusion

The unique design of this IPE workshop, which employed evolving scenarios of a continuum of a patient's journey in various clinical settings, provided participants with an authentic context-specific milieu for learning. The workshop had significantly improved medical students' understanding of the importance of role clarity, teamwork and communication in interprofessional collaboration. The results pave the way for future incorporation of interactive, contextualised, scenario-based IPE curriculum for healthcare undergraduates in place of static teaching and scenarios. Future studies should explore the feasibility of wider dissemination of this unique design IPE workshop to varied clinical settings.

D1079

EVALUATION OF THE READINESS AND CONFIDENCE OF JUNIOR DOCTORS AND STUDENT INTERNS PRIOR TO A SURGICAL ROTATION

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Background and Aims

The completion of five years of medical school marks the beginning of a life-long career in Medicine. In Singapore, medical students in their graduating year undergo a student internship program (SIP) and upon successful completion of their examinations, begin their career as house-officers. One of the challenges in medicine faced by junior trainees is the translation of knowledge acquired in medical school into actual clinical practice; often this poses as a barrier towards a physician's confidence and competence in managing patients. We sought to understand the readiness of medical interns and junior doctors in managing clinical work prior to their rotation in General Surgery as well as their opinion on the usefulness of a readily available clinical resource, the acute surgical handbook (ASH), to guide them through the posting.

Methods

This is a prospective study of junior doctors (House officers) and medical students in their final year from both the Yong-Loo Lin School of Medicine and Duke NUS Medical school. All participants were tasked to complete a short online survey evaluating their level of anxiety, standard of existing surgical knowledge as well as comfort and competency in managing acute surgical emergencies/bed-side procedures before the start of their surgical rotation. In addition, participants were asked on the relevance of having an additional clinical resource as an adjunct to help with their clinical work.

Results

Between January 2016 to June 2018, a total of 208 eligible participants were identified. The overall participation rate for the survey was 50.0% (n=104). 49.0% (n=51) were medical students while 37.5% (n=39) were house officers. Among the respondents, 80% (n=94) were at least moderately anxious before their first surgical rotation. 72% (n=68) graded their standard of acute knowledge before they obtained the ASH to be inadequate or grossly inadequate. In terms of management of acute surgical emergencies, 80% (n=75) graded their comfort level before they obtained the ASH to be "not certain, might result in subpar management" or "very unsure, might result in adverse outcomes". In terms of competency of ward/bedside procedures, 83% (n=78) graded their competency to be fair or poor. A total of 64% (n=61) participants found it helpful to have a section on "principles of management of common surgical emergencies" with respect to the clinical management of patients on call followed by 24% (n=23) finding it useful to have a "guide to diagnosis and management of post-operative complications" in a clinical resource. Approximately 48% (n=45) feel that the use of a clinical resource such as the ASH would be very useful in improving the clinical care of patients.

Conclusion

Based on our findings, student interns and junior doctors face a great deal of inadequacy in terms of knowledge and confidence in surgical based care of patients. The use of a clinical resource, where available, may be useful in improving the clinical care of patients.

BRIDGING THE GAP IN HEALTH PROFESSIONALS FROM NOVICE TO ADVANCED PRACTITIONER: A PRACTICAL FRAMEWORK

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Background and Aims

Academic preparation for entry to professions is to equip graduates with basic skills, knowledge and behaviours however, employers' perception of work place preparedness focuses on professionalism, perspective and confidence. This leaves a gap between knowing and doing. Employers have referred to the lack of work skill preparedness as the contributing factor towards difficulties in decision making and lack of confidence in engaging. There is an unmet need in health care professions for a framework to address this gap.

Methods

The innovative Allied Health Career Development framework (AHCD) attempts to bridge the gap in the transition from novice to advanced practitioner by:

1. Focusing and reflecting on competencies relevant to allied health professions
2. Applying sensitivity to the workplace via aspects of emotional intelligence
3. Building career progression through awareness in levels of autonomy
4. Using reflective practice for feedback

Results

The three components of the AHCD framework - Competencies, Affective Domain and Levels of Autonomy, are complementary and facilitate self-directed learning and reflective practice which ultimately promote professional development. AHCD can be used as a self-assessment tool or a performance feedback tool for the employer.

Conclusion

The objective of the AHCD was to facilitate the successful transition of an allied health professional from novice to advanced practitioner while focussing on key competencies and levels of autonomy through reflective practice and emotional and social sensitivity to the workplace. The AHCD facilitates this transition via self-directed learning and reflective practice. The philosophy presented in the framework may be applicable to all health care professionals.

ENHANCED LABORATORIAL COMPETENCE OF MEDICAL STUDENTS BY USING COMPUTER-BASED LEARNING METHOD WITH LABTUTOR SYSTEM

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Background and Aims

Computer-based learning has been used widely in by a myriad of learning programs across the world. However, there is a debate about applying this method in physiological learning in medical university. In the present study, we evaluated effects of computer-based learning method with implementation Labtutor teaching system (ADInstrument, Australia) at Vietnam Military Medical University (VMMU).

Methods

This study was performed on 30 undergraduate students of VMMU divided randomly into two groups. In group 01 (n=15), student conducted cardiovascular physiology lesson in the rabbit by using conventional method. Students in group 02 (n=15) did the same lesson that was developed using Labtutor teaching system (ADInstrument, Australia) - a computer-based learning method. By using this method, students conducted their experiment follow instructions and acquired data in computer immediately. Furthermore, they also could analyse data and submit results to their lecturer by themselves. Laboratorial competency of all students in both groups were assessed after experiments by using a questionnaire that assessed facts on cardiovascular function and experimental interest, and using lecturer's mark.

Results

Ratios of correct experimental performances, average grades, interest levels of students in group 02 were significantly higher than those in group 01. Furthermore, in group 02, students' knowledge on cardiovascular function was also higher than this in group 01.

Conclusion

Computer-based learning method enhances the maximisation of learners' laboratorial competency in physiological practice lesson. This method facilitated self-educated ability and raise interest, strengthened recognition of implementation of trainees.

ESTABLISHING A DATABASE TO UNDERSTAND LEARNING STYLES, THE RISK ATTITUDE, AND THE PERFORMANCE OF LAPAROSCOPIC SKILLS OF MEDICAL STUDENTS

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Background and Aims

The relationship between the performances of laparoscopic skills and learning styles of medical students is unknown. The aim of this study was to establish a database to understand learning styles, the risk attitude, and the performance of laparoscopic skills of medical students as the basis for future planning of skills training.

Methods

For our high school entry medical students, they gained hands-on experiences of laparoscopic skills first time by attending a 1-hour course at Minimally Invasive Surgery Training Centre, NTUH. We invited students to participate this study after this training between February 2016 to June 2016. We collected participants' final products of 'precision cutting' station and assessed them by using a self-develop assessment tool based on completion, degree of deformation, degree of being pulled, and overall appearance. Participants also needed to fill in the Kolb learning style questionnaire and the Revised Physicians' Reactions to Uncertainty Scales (PRU).

Results

81 students were enrolled. Most of learning styles among them were converger (29/81, 36%) and assimilator (29/81, 36%). Accommodator, diverger, and multimodal were 13%, 11%, and 4%. The median of PRU score was 56 (range 41-79; The higher the score, the stronger the risk-aversion tendency and the less the uncertainty is). The assessment results of 'precision cutting' were as followed: completion 2.2±0.9, degree of deformation 2.11±0.9, degree of being pulled 3.1±1.1, and overall appearance 2.6±0.9 in a 5 points scale.

Conclusion

In summary, we successfully established a database to understand learning styles, the risk attitude, and the performance of laparoscopic skills of medical students. We also valid the self-develop assessment tool for 'precision cutting' laparoscopic skill. The relationship between the performance of 'precision cutting' and learning styles of participants will be evaluated for designing customised skills training for students with different learning style.

EVALUATING THE OUTCOMES OF AN UNDERGRADUATE INTERNAL MEDICINE ELECTIVE PROGRAM AT AN ACADEMIC TERTIARY HEALTHCARE INSTITUTION

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Background and Aims

The 5-year undergraduate medical course at National University of Singapore requires students to undertake electives at the end of the fourth year. These can be done either in a local or overseas institution. The National University Hospital Internal Medicine Department offered these students a 3-week long elective program. Being a highly popular program, many students had applied to participate. Unfortunately, not everyone could be accommodated. Those who were successful were either allocated to the Student-Internship-Program (SIP) elective or the Clinical Clerkship elective.

Aims and objectives
The SIP component aims to instill confidence in facing the upcoming student internship program during the Year 5 curriculum by embedding the students in ward teams, allowing them to shadow the House Officers and take on roles as functional members of the team. This would also grant them the opportunity to gain knowledge of practical ward skills.

The Clinical Clerkship component aims to assist students in their revision of core medical knowledge and build a foundation for their preparation for the final undergraduate examinations

While both programs have their unique objectives, they share many similarities. Students will receive supervision and guidance from consultants and through these interactions develop lasting relationships with the faculty. The program also hopes to nurture interests in pursuing Internal Medicine as a career.

This study aims to evaluate the success of this elective program.

Methods

Participants were asked to complete an end-of-posting questionnaire on various aspects of the program ranging from opportunities to develop practical ward skills, quality and quantity of lectures and tutorials and overall experience and perspective of Internal Medicine. Answers were collected in a five-point format - 1 being "strongly disagree" and 5 being "strongly agree".

Results

Out of 61 respondents, 32 participated in the clinical clerkship elective while 29 participated in the student-internship-program elective. In terms of learning practical ward skills, there were mixed responses. 33 students agreed that they learnt how to prepare for the ward round while 34 felt that they have honed their ward-round presentation skills. However, 37 felt that they did not receive adequate opportunities to make blue-letter referrals while 34 felt so for procedures.

In terms of quality and quantity of didactic lectures and tutorials, an overwhelming majority agreed (60 and 59 respectively). A resounding 52 students agreed that they have received close supervision from the faculty while 39 felt that they have developed strong relationships with faculty members and residents. 40 students were also inspired to embark on Internal Medicine as a career.

Most students also found the elective useful, enjoyable, and learnt to appreciate the beauty of Medicine. 52 students were more ready to face the SIP.

Conclusion

The program has received largely positive feedback. This is a reflection of the strong teaching culture at National University Hospital. There is room for improvement in terms of providing more opportunities to participate in practical ward work such as making referrals and performing procedures. Future programs should also strive to make a clear distinction between the two sub-elective groups.

D1084

RELATIONSHIP BETWEEN ACADEMIC RECORD AND SELF-ASSESSMENT OF COMPETENCIES THROUGH 6-YEAR MEDICAL EDUCATION PROGRAMME

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Background and Aims

In Japan, each medical school have own competences and competencies for their educational program. In our University, 5 competences and 47 competencies through 6 years for medical education were decided recently. The competences included that 1) Professionalism (12 items), 2) Communication skills (9 items), 3) Medical knowledge and research mind (10 items), 4) Clinical skills (9 items) and 5) Contribution of local society (7 items). The aim of this study was to assess the relationship between achievement of competences and competencies by self-assessment questionnaire and academic record.

Methods

A total of 103 medical students who were scheduled graduation participated in this study. To evaluate competences and competencies achievements, each student evaluated 47 competencies by self-assessment, choosing among 'Fully mastered', 'Mastered', 'Not mastered' or 'Absolutely not mastered'. Students were also asked their satisfaction of educational program through 6 years, choosing among 'Fully satisfied', 'Satisfied', 'Not satisfied', or 'Absolutely not satisfied'. Final examinations for graduation were used as an academic record for ranking. After sorting with academic records ranking, students were divided into 2 groups (Group A: ranking 1 to 52 and Group B: ranking 52-103) and compared difference of achievement of competences and competencies.

Results

Among 5 competences, professionalism, communication skills and clinical skills revealed that more than half competencies (9 out of 12 items, 6 out of 9 items and 5 out of 9 items, respectively) were significantly higher percentage of "Fully master" in Group A compared with Group B. In terms of "medical knowledge and research mind" and "contribution of local society", self-achievement assessment of competences showed that most of competencies were not different regardless of academic ranking (4 out of 10 items and 0 out of 7 items, respectively). Satisfaction of educational program was significantly higher in Group A compared with Group B (46.9% vs. 24.4%, p=0.02).

Conclusion

The academic record ranking defined as objective assessments did not always associated with the achievement of competences and competencies, especially for "medical knowledge and research mind" and "contribution of local society". However, overall satisfaction of medical program through 6 years was associated with academic ranking.

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D1086 **Utility of 3D Printed Models of Acetabular Fractures in Improving the Teaching for Orthopaedic Residents: A Randomised Trial**
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D1085

THE USE OF MINI CEX IN TTSH OCCUPATIONAL THERAPY DEPARTMENT, PHYSIOTHERAPY DEPARTMENT AND REHAB DEPARTMENT, 3 YEARS FOLLOWING ITS INTRODUCTION: TRAINEES' PERCEPTION

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Background and Aims

Mini CEX was introduced to Allied Health Services (AHS) in a public hospital in 2014, as a workplace-based assessment to develop trainee's clinical competency. Senior therapists use mini CEX to provide constructive feedback to trainees and determine if they can progress to the next stage of training.

Medical education literature have found mini CEX to be effective in guiding medical trainees' work behaviours towards desired learning outcomes. However, studies on the use of mini CEX in allied health training are limited.

This research aims to investigate the opinions, attitudes and perception that allied health trainees have towards mini CEX. It also aims to identify any potential issues regarding the use of mini CEX in AHS training and education, so as to enhance future AHS faculty development programmes.

Methods

Occupational Therapists (OTs) and Physiotherapists (PTs) who underwent training and supervision after the introduction of mini CEX in 2014 and have completed at least 1 mini CEX were invited to participate in this study. Recruitment was done via departmental/ team meetings and email invitation. All eligible participants were provided with the research questionnaire and Participant's Information Sheet, stating their involvement, which is of voluntary and anonymous nature, research background, procedure and ethics approval.

The study involved administration of a questionnaire, which collected demographic information, rating scales and free text response on the participants' experience, opinion and perception on mini CEX. The questionnaire was developed based on similar researches conducted locally and overseas. All completed questionnaires were coded before analysis.

Results

A total of 23 OTs and 28 PTs participated in this study. 58% of the participants completed between 1 to 10 mini CEX, 32% completed 11 to 20 mini CEX, while 10% completed more than 20 mini CEX. 80% of them described an overall positive feeling towards mini CEX, though 78% felt that the assessment promotes test orientated behaviour. 88% rated mini CEX to be a learning tool while 92% rated mini CEX as an assessment tool. 66% felt that educators have enough time to conduct the assessment with them while 84% reported that educators were able to find an appropriate time and place for feedback. 45% responded that feedback is inconsistent when given by multiple sources.

Based on content analysis of the open ended questions, participants found mini CEX to be structured and objective, helping to identify their strengths and weaknesses in clinical practice. Some perceived the assessment to be stressful and may not reflect their overall clinical performance.

Conclusion

The mini CEX is generally well-received by trainee OTs and PTs, educators are able to allocate time to conduct the assessment and provide feedback to trainees. Based on trainees' responses, it would be beneficial to educate trainees regarding the formative nature of mini CEX and the purpose for multiple assessors and multiple clinical encounters, so as to provide a more holistic view towards their clinical development as a competent therapist. Further research may include an in-depth review of the learning environment and nature of feedback provided, which may impact on the trainee's learning.

D1086

UTILITY OF 3D PRINTED MODELS OF ACETABULAR FRACTURES IN IMPROVING THE TEACHING FOR ORTHOPAEDIC RESIDENTS: A RANDOMISED TRIAL

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Background and Aims

Background: Acetabular fractures have a complex three dimensional configuration. 3-D printing technology is capable of providing accurate anatomical models of these fractures and there is emerging role of using this technology in education.

Aim: To evaluate utility of 3-D printed models of acetabular fractures as a method of learning compared to regular lecture based teaching.

Methods

Ten different clinical cases of acetabular fracture patterns were identified and X-ray images were obtained. 3-D models of all the selected fractures were printed. Baseline knowledge of acetabular fracture classification and surgical approach was determined by an x-ray based pre-test. Trainees were then randomly assigned into two groups. Group I received a regular lecture, Group II were provided with 3-D printed models during the lecture. Participants then received a post test and were assessed for comprehension and retention of teaching. Qualitative feedback regarding the teaching methods was also obtained.

Results

Seventeen trainees participated in the trial with matched distribution of trainee years in both groups. Pre-test scores were poor (Median: 4 out of 10, range 0-8) for the entire subject group and improvement was noted in scores for both groups post teaching. Pre-test scores were not significantly different but post test score were higher for 3-D model group although not statistically significant ($p>0.05$). Trainees felt physical characteristics of the models were good representation of acetabular fracture configuration. In the 3-D model group 90% would use the model to plan for surgical approach compared to 60% in regular teaching group. All participants agreed that the 3-D models teach clinically relevant anatomy and would prefer it over regular lecture based learning.

Conclusion

This study results suggest that the 3-D printed model of real clinical cases is easy to use and would enhance trainees understanding of complex acetabular fractures. Preference to this model over lecture based learning warrants assessment of the educational impact of 3-D printed model in other areas of Orthopaedics and other surgically relevant specialties.

D1087

A STUDY ON THE USE OF HIGH FIDELITY PATIENT SIMULATION TO TEACH CLINICAL PHARMACOLOGY AND THERAPEUTICS OF STATUS EPILEPTICUS IN PAEDIATRICS TO FINAL YEAR MEDICAL STUDENTS

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Background and Aims

Clinical pharmacology and therapeutics has important implications in clinical practice. Pharmacology is taught for undergraduates mainly in the third year with didactic lectures and small group discussions. The clinical teaching is done mainly in the fourth and fifth year of undergraduate medical curriculum and it is temporally separated from teaching of pharmacology. This causes problems of interrelation of this two important aspects of medical education within the minds of medical students. Thus retaining of knowledge of pharmacology as an integral part of clinical practice is retarded

This is really important in relation to paediatric pharmacology as the therapeutics in paediatrics is different from adult medicine. High fidelity simulations provide safe and controlled real life learning environment in which students can gain hands on experience and integrate pharmacotherapy knowledge and skills learned in the classroom into practice.

Objectives

1. To assess the usefulness of high fidelity simulations for teaching clinical pharmacology and therapeutics in status epilepticus in paediatrics to undergraduate medical students

2. To assess the student perception on new teaching method

Methods

A group of final year medical students (n=46) doing professorial paediatric appointment were included in the study. Scenario of status epilepticus using the high fidelity patient simulator was given to the students. Groups of 5 to 6 students were given the opportunity to do the scenario at one time. Initial briefing was given for 05 minutes and then the simulation conducted for 20 minutes followed by debriefing for 10 minutes.

Perception about the simulated session, and feedback about the teaching were assessed from each student following the simulated session using an anonymous self-administered questionnaire on five point Likert scale (strongly disagree-1 to strongly agree- 5) Acquisition of knowledge was assessed using a knowledge assessment questionnaires given before and after the simulation session.

Results

Students scored significantly higher marks for the post assessment of knowledge compared to the pre assessment p= <0.001. Median score was 4 in the Likert scale for the perception about the simulated session, wiz, the session was appropriate to their knowledge and experience, the training session resembled a real life situation, and simulation contributed to their understanding of drug therapy in status epilepticus.

Students were in the opinion that simulated sessions are better than small group discussions and high fidelity simulations should be used more often in the teaching of clinical pharmacology [median score-4 (agree)], high fidelity simulations are an effective tool to teach clinical drug therapy [median score-5 (strongly agree)].

Conclusion

High fidelity patient simulations seems to be an effective way of teaching clinical pharmacology and therapeutics of status epilepticus to final year medical students and it is well received by the students.

D1088

OSATS (OBJECTIVE STRUCTURED ASSESSMENT OF TECHNICAL SKILLS) AS A TOOL TO TEACH AND THEN EVALUATE LEARNING OF AIRWAY MANAGEMENT OF NEW ENTRANT CLINICAL SPECIALTY POSTGRADUATE STUDENTS

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Background and Aims

Learning Airway Management skills is of paramount importance while providing basic life support. The new postgraduate students have no in-depth understanding of the issues concerning airway management in difficult/emergency conditions, and therefore are not capable of procuring airways in such situations.They will come across obstructed airways in the OPD,wards, ICU and OT, which will require prompt restoration of airway to sustain life.This study aims to train students and assess their learning within a short time by

1. Promoting learning of essential skills in the postgraduate students, by trial, using the task table of OSATS (A variant of OSCE),
2. Assessing learning of the skills of airway management by the students, after teaching the same

Methods

The study was conducted in the Department of Anesthesiology after obtaining ethical clearance certificate from the ethical committee of our Institution, Informed consent was taken from the students.

Study Design- Interventional study;

Study Duration- May 2015- July 2015;

Study Population- 45 Postgraduate students of clinical specialty departments. After a lecture on managing airway in difficult/ emergency situations, the students were randomly allocated into three groups of 15 students each. Three technique stations were set up with necessary mannequins and other equipments. Then, all the three groups attended demonstrations of all the three essential skills in rotation, one after the other. The three skills demonstrated were

1. The triple maneuver.
2. Use of oral airway.
3. Endotracheal intubation.

All the students of all the three groups were asked to perform the skills in turns. Each student's performance of each task was assessed using appropriate 'Task-Check-List' at the three stations. The scores were recorded as 'Scores of day 1'. The errors made by the students were corrected. The students assembled after a week for a second assessment using the same technique stations. The students were asked to perform the skills learnt and their performance was assessed using the same task-check-list. The scores were recorded as 'Scores of day 2'

Results

On Day-1 the Mean +SD (Median) was 2.82+0.716 (3.00), 2.66+0.522 (3.00) and 3.44+0.690 (4.00) were the confidence levels for the above listed skills respectively. The scores on Day-2 were considerably higher. They were 9.73+0.539 (10.00), 9.44+0.785 (10.00) and 9.2+1.036 (10.00) respectively. The p-Values obtained by using the Z-test for the three skills were <0.001, <0.0001 and <0.0001 respectively. There is a significant difference between the confidence levels of performing the skills before and after demonstration and trial, as evident by the p-values listed above. Moreover, all the 45 participants found demonstration helpful in learning skills when compared to a lecture on the aforementioned skills.

Conclusion

Teaching and assessment of technical skills is as important as that of cognitive and communication skills. This study showed that such skills are better taught using demonstrations in comparison to lectures alone. Those skills which are potentially life saving or need to be frequently performed should be assessed thoroughly. OSATS is an appropriate tool to evaluate the reproducibility of technical skills. As is with OSCE, the objectivity and the reliability of this assessment is high as compared to conventional assessment methods

D1089

GETTING TO GRIPS WITH 'HANDI'

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Background and Aims

The vision of the Bond University medical program is to offer students opportunities to bring to life their ambitions to become outstanding practitioners, thinkers and leaders, well equipped to deliver evidenced-based, patient centred health care that meets the needs of a diverse community.

Methods

Designing and delivering a curriculum that encompasses evidence-based practice ensures that we fulfil our vision. The Royal Australian College of General Practitioners (RACGP) has developed the Handbook of Non-Drug interventions (HANDI). It is promoted as the handiest one stop reference for practical use of evidence-based non-pharmacological treatments and aims to make 'prescribing' a non-drug therapy almost as easy as writing a prescription. At Bond we wanted to ensure that our students used the HANDI resource and considered non-drug interventions at every opportunity of case management.

Results

The Curriculum team reviewed where HANDI could be incorporated into the 5-year program. The first two years subscribes to a hybrid Problem-Based Learning (PBL) approach and supports learners through a range of supplementary sessions such as lectures, workshops, etc. It was agreed that 8 cases would be modified to incorporate HANDI e.g. Back injury with advice as to how to stay active and exercise following a stroke. During Year 3, the PBL cases are replaced with virtual patients via the Bond Virtual Hospital (an app). In 'clinical teams', groups of students discuss and manage patients, often several each week. A case-based learning approach is used. HANDI was incorporated into the app cases, with structured questions throughout case management. A forum was organised and supported the utilisation HANDI and principles of exercise as medicine. The year 4 and 5 clinical rotation teaching sessions were also reviewed to ensure promotion of HANDI. The assessed clerked case templates were also modified, students were reminded to review Non-Drug interventions during their presentations.

Conclusion

The GP team at Bond had referenced and utilised HANDI as a teaching resource over a period within the GP blocks.

It was agreed, that although non-drug interventions were discussed and delivered throughout the program that a strategic review and implementation of HANDI. This would allow graduates that are fully prepared to commence internship in Australia or New Zealand, with the critical thinking skills required to interpret and expand the evidence base for practice.

Next steps will include a whole faculty approach workshop by including physiotherapy, occupational therapy, nutrition and dietetics and sports and exercise students with medical students to review cases and utilisation of HANDI as resource tool for practice. This approach will support the clinical, interpersonal, teamwork and leadership skills to deliver high quality health care outcomes.

"I DIDN'T SIGN UP FOR THIS" THE EXPERIENCE OF DISILLUSIONMENT IN MEDICAL EDUCATION

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Background and Aims

While disillusionment has been associated with adverse outcomes such as cynicism, burnout and distress in the literature, how disillusionment is experienced during medical training has been little studied. This research explores how students perceive disillusionment in the course of medical training.

Methods

An exploratory qualitative methodology using focus group discussions (FGD) was employed. A total of 5 FGDs (n=39) comprising 2 preclinical (MS1 and MS2, n=15) and 3 early clinical (MS3 and MS4, n=24) FGDs were conducted. The student experience of disillusionment in medical training was discussed with the use of a semi-structured guide. Discussions were audio-recorded, transcribed, and thematically analysed to identify themes and sub-themes from the data.

Results

Four themes emerged from the data: mismatched expectations, uncertainty, resilience factors, and personal growth.

Conclusion

Disillusionment results from the mismatch between expectation and experience. It results in trainee uncertainty and self-questioning about one's role, purpose, and place in the world of medicine. Resilience is mustered when space is given to recover, reflect and to be listened to; mentors help trainees imagine their future roles as humane doctors in demanding circumstances. Participants recognised how disillusionment could be cause for personal growth. Through self-reflection they recognised their sense of being limited, their need to depend on others, and their sense of agency. Having a meaningful purpose for wanting to be a doctor was a touchstone that helped trainees tide through the challenges of being a medical trainee.

TEACHING BIOETHICS TO PRECLINICAL MEDICAL STUDENTS

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Background and Aims

Bioethics is essential to medical education. However, providing quality bioethics education is challenging given the demands on student time in medical curricula, shortage of qualified teachers, need to coordinate multidisciplinary scholarship, provide standardised assessment, and evaluate of the effectiveness of knowledge transfer in practice. Bioethics also requires an innovative pedagogy to stimulate medical students' interest in learning moral reasoning. This study objective is to explore attitudes towards a newly implemented bioethics education among medical students in pre-clinical years.

Methods

Three focus group were conducted among twelve Year 1 and 2 medical students in 2017, exploring three themes, (1) perceived need of bioethics education, (2) curriculum content, and (3) teaching pedagogy. Thematic content analysis was used.

Results

Participants have little or no exposure to bioethics from the high-school curriculum. All students found the practice of medicine and ethics are inseparable, as they anticipate encountering ethical dilemmas in healthcare delivery sometime in their life.

A few students did not understand the advantage of early exposure in bioethics during the pre-clinical year, where they were overwhelmingly occupied by having a full load of science requirements. They often prioritise the basic science subjects that are more "relatable" and regard it as practical subject in medicine, whereas ethics is "distant" to them and place it at a lower priority. They also perceived blended learning as an advantage in pursuing a more personalised learning process. Using same online materials in tutorials for group discussion were reported as a barrier to engaging in class participation.

Conclusion

Bioethics pre-clinical curriculum is vital and should be reinforced in medical education. It is imperative to commit to the continuous program evaluation as the program develops into clinical phase.

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D1092

ELICITING POSITIVE BEHAVIOUR CHANGE THROUGH MOTIVATIONAL INTERVIEWING: A PEER SKILLS-TEACHING WORKSHOP

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Background and Aims

Motivational Interviewing (MI) is a counseling technique that encourages the client to discover their inner motivation and overcome ambivalence to enact change. This technique is used in the healthcare setting in a variety of contexts. MI is formally taught to medical students at Yong Loo Lin School of Medicine only in their clinical years, though it may be relevant to pre-clinical medical students involved in healthcare-related community service projects when they counsel their participants at health screenings. Thus, an introductory MI workshop was conducted by clinical year medical students for this group of pre-clinical students. This study investigates the effectiveness of peer-led teaching of MI techniques.

Methods

A three-hour MI workshop was conducted by clinical year medical students trained in MI, supervised by a content expert, for 44 eligible pre-clinical medical students from National University of Singapore Yong Loo Lin School of Medicine (NUS YLLSoM). Before the workshop, participants were paired up and filmed performing a task to promote a positive behavioural change in their partners who were roleplaying a scripted scenario. After the workshop, participants were re-filmed attempting the same scenario. The pre- and post-workshop videos were collated, randomised and independently marked by two senior medical students trained in MI. The assessment was done with a rubric developed by NUS YLLSoM Department of Family Medicine, with nine different domains each evaluated on a nine-point scale giving a maximal score of 81. In total, 27 participants submitted complete pre- and post-workshop videos and were included in this study.

In addition, participants completed a post-workshop survey which was evaluated for an increase in confidence of using MI techniques after the workshop. Participants also took a pre- and post-workshop multiple-choice quiz on MI techniques and the results were compared to identify any increase in knowledge.

Results

Based on the videos of 27 participants included in the study, post-workshop video scores were higher than pre-workshop scores, with a median score of 41.5 versus 32 respectively ($p<0.001$). 26 participants had improvements in their scores while 1 participant had no change in scores. Univariate analysis of the quiz showed that post-workshop academic quiz score of 38 students was higher than the pre-workshop one - with a median scores of 4.5 versus 3 out of a maximal score of 7 respectively ($p<0.001$). In addition, the reflective survey showed that students in general felt more confident and familiar with the MI techniques after the workshop ($p<0.001$).

Conclusion

Peer-teaching led by clinical year students trained in MI is effective in equipping pre-clinical medical students with basic MI skills. The increase in post-workshop scores and self-reported confidence in applying the MI techniques suggests that MI can be appropriately taught at the pre-clinical level. Further studies can be carried out to evaluate if MI techniques have been successful in driving a positive behavioural change in participants of health screenings and other healthcare-related community service projects. If so, this may support the need for future workshops to be conducted, or even for MI to be incorporated into the pre-clinical medical education programme.

D1093

PREVALENCE OF NOMOPHOBIA AND ITS EFFECT ON PSYCHOLOGICAL WELL-BEING IN SMARTPHONE USING UNDERGRADUATES OF A SELECTED MEDICAL FACULTY IN SRI LANKA

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Background and Aims

Nomophobia, the fear/anxiety of being away from mobile phone contact is an alarmingly rising specific phobia of recent times.

In Sri Lankan setting due to recent advances in telecommunication technology smartphone usage is highly prevalent, particularly among young adults. Medical undergraduates are more prone to develop nomophobia as they are expected to go through a time constraining schedule. Main objective of the study was to assess the usage patterns of mobile devices, prevalence of nomophobia and its effects on some aspects of psychological wellbeing in smartphone using undergraduates of a selected medical faculty in Sri Lanka.

Methods

A cross sectional analytical study was carried out among 150 medical undergraduates of Faculty of Medicine, University of Colombo. The study population was selected from 5 batches consisting of students from 1st year to 4th year using convenient sampling. A self-administered questionnaire developed by the co-authors which included the validated Nomophobia questionnaire was used for data collection. The significance of each socio-demographic/smartphone usage parameter for development of nomophobia and its effect on some aspects of psychological well-being was proven using the Chi-Square test The data was analysed using SPSS version 24.

Results

The prevalence of nomophobia in the study population was 100.0% with 28.2% having mild, 62.0% moderate and remaining 9.9% having severe nomophobia. 93.7% checked their smartphone during academics. 41.8% were using smartphone during academics to look up study material and 28.1% for SMS. 21.8% believed they spend too much time on smartphone which they could have otherwise used for studies while 45.1% thought that their smartphone saved them time because it served as a rapid medium of information access. Majority of the participants who made calls (81.0%), browse social media (73.3%) and view/send SMS (83.3%) as their main reason for checking the smartphone during academics were moderate-severe nomophobic while majority of the participants who looked at (80.0%) study material were mildly nomophobic. 82.5% of the individuals think it will be more useful to allow usage of smartphone during academics and 80% felt less anxious if allowed to use during academics. All the undergraduates who kept their smartphones in their hands when they were at the faculty had moderate-severe nomophobia. A larger proportion of moderate - severe nomophobes (n=39) were having decrease in sleep quality and reduced total sleep time when the phone was used before sleep compared to the mild nomophobes (20%). 22.5% of mild nomophobes and 24.5% of moderate-severe nomophobe had concentration difficulties on studies when access to the smartphone was restricted. On the other hand more than 40% of the students from all categories of nomophobia had complained of difficulty to concentrate after checking the phone.

Conclusion

The study population had a high prevalence of nomophobia with many socio-demographic and smartphone usage-related factors leading to its development with statistically significant associations. Nomophobia had caused some detrimental effects on the psychological wellbeing and academic scholarship of the study population.

IMPLEMENTING A LONGITUDINAL INTEGRATED ASSESSMENT PROGRAM IN FAMILY MEDICINE- FROM THEORY TO PRACTICE

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Background and Aims

The GP365 family medicine program, developed by ModMed Ltd in partnership with the Flinders University's Prideaux Centre, adopts a programmatic assessment for learning approach. Designed for general practice training, the program has been in use in Australia since 2015.

Methods

The decision to move to programmatic assessment was obvious. Challenges presented in the implementation of the program, in the translation of theory into practice.

Intrinsic to the notion of programmatic assessment is a successful implementation.

Therefore, issues that might facilitate or hamper a successful implementation and the sustainability of programmatic assessment beyond the implementation phase were important to consider.

Results

The primary issues we encountered were:

- programmatic assessment is radically different from the traditional approaches.
- the logistics of delivering programmatic assessment in a work based setting.

A systematic approach to implementation was adopted to address the issues identified and ensure increased adoption, quality, safety and cost outcomes were achieved.

The framework developed was based on the congruence model of organisational alignment. Very simply, the greater the congruence of organisational elements such as work, people, structure, and culture the higher the performance.

Conclusion

When pursuing transformations, organisations rarely realise the benefits or retain the value they anticipated. While there are many reasons for this, studies confirm that the top contributors are related to people and organisational issues.

Further, even when an organisation is willing to accept the concept of programmatic assessment there is still a tendency to revert to more traditional approaches along the way.

Take home messages:
Critical to the success of the GP365 implementation was the development of a customised system to ensure ease of use, real time monitoring, access anytime anywhere, automation and reporting.

APPLICANT ACCEPTABILITY OF NON-COGNITIVE ADMISSIONS TOOLS

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Background and Aims

Medical school admissions have typically relied on strong cognitive metrics, namely academic performance and standardized test scores (i.e., BMAT, MCAT), to guide decisions on who gets accepted. The assessments of non-cognitive competencies have been a greater challenge, as many of these tools do not generate reliable enough scores to predict meaningful outcomes in medical school. While reliability and predictive validity are important factors to consider when deciding which admission tools to use in the admissions process, the political validity of these tools also needs to be taken into consideration. For instance, if applicants perceive a particular tool to be unfair for the admissions process, then they will be less likely to apply to programs which use that tool, resulting in a possible recruitment issue for institutions. While the applicant acceptabilities of various admissions tools have been evaluated in previous studies, recent developments in situational judgement tests open up another tool to consider for medical programs. In this study, we examined the applicant acceptability of a widely-used situational judgement test (SJT), CASPer, alongside other popular non-cognitive assessment tools.

Methods

Applicants who completed the CASPer test were given the opportunity to participate in a follow-up survey to rate the acceptability of other commonly used non-cognitive admissions tools: CASPer (an SJT), personal statements, reference letters, multiple

mini-interviews (MMI), and traditional interviews. They were asked to fill out their agreement with the following statements on a Likert scale from 1 to 7:

- The assessment is fair to all students.
- The assessment allowed me to demonstrate my strengths.
- I enjoyed participating in the assessment.
- The assessment was stressful for me.
- I believe the assessment is an effective tool for evaluating one's aptitudes (non-academic) for the medical profession.

Results

Personal statements and reference letters were perceived to be fairer than CASPer (p < .001 and p < .05, respectively), while the MMI and traditional interviews were perceived to be equally as fair as CASPer. Applicants felt like they were not as able to demonstrate their strengths on CASPer compared to the other tools (p < .05 for all comparisons), and did not enjoy CASPer as much as the reference letters and the traditional interviews (p < .001 and p <.05, respectively). However, students found CASPer to be less stressful than personal statements, the MMI, and traditional interviews (p < .001 for all comparisons), but perceived CASPer to be a less effective tool to evaluate one's aptitudes for the medical profession (p < .01 for all comparisons).

Conclusion

While research has demonstrated the little utility of reference letters, personal interviews, and personal statements, the results suggest that applicants tended to have a fairly positive perception of these tools. On the other hand, tools with stronger validity evidence, such as SJTs and MMIs, tended to be perceived more negatively. These results suggest that medical programs need to further educate their applicants on the research backing these admission tools so that the applicant perceptions are better in line with actual research evidence.

D1096

ADDRESSING MEDICAL STUDENTS' NEEDS USING MASLOW'S HIERARCHY OF NEEDS DURING THEIR OPHTHALMOLOGY PLACEMENT IN A TERTIARY HOSPITAL

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Background and Aims

4th year medical students from University of Nottingham rotate to the ophthalmology department at Queen's Medical Centre, Nottingham UK, where most of the clinical exposure takes place at outpatients. Feedback from both student and teaching faculty about the student's learning and the faculty's teaching experiences reflects three issues: 1) clinician's assumptions of student's knowledge of specialised ophthalmic equipment, investigations and 'eye jargon'; 2) student having difficulty observing clinical signs due to specialised use of the slit lamp; and 3) lack of student engagement due to student interest in the specialty. Coupled with the vast curriculum, students report feeling lost and overwhelmed, which can hamper interest in the specialty. The short placement of two weeks also makes its harder for the faculty to foster relationships with students, contributing to the challenge of meeting higher levels of Maslow's hierarchy of needs.

Methods

A 75-minute 'Practical Ophthalmology' session was developed and delivered to the students by the teaching fellow on the first day of placement. It introduces the students to the outpatient environment and comprises of slit lamp demonstration and teaching using the Haag-Streit EyeSuite. The students can view a live image of the examined eye on a screen. They also have hands-on experience to examine ocular structures on each other's eyes on the slit lamp. Students are then shown tonometry, diagnostic eye drops and lenses commonly used in clinic. The session concludes with a departmental tour, taking students around different in-house investigational modalities and allied eye care departments, such as optometry and orthoptics.

Results

Feedback was collected via a questionnaire post placement to explore the student's mindset and perceived practical usefulness of the intervention during the placement. Response rate was 90% (35/39). 66% of students confirmed the anecdotal view of clinician's assumption. 100% found the departmental tour really helpful for orientation and 91% felt more confident with clinical signs after the slit lamp teaching. Interestingly, even as slit lamp use is not a formal part of the curriculum, 82% requested more hands-on experience.

Conclusion

This 'Practical Ophthalmology' session is the first of its kind that a validated study has been done to assess the effectiveness of Maslow's hierarchy of needs in a niche specialty like ophthalmology. Our intervention has shown to motivate students to fulfil the psychological levels of Maslow's hierarchy. Students are empowered to achieve the level of esteem and confidence as they successfully recognised different clinical signs on the slit lamp, maximising learning opportunities. The orientation reduced anxiety faced in outpatient clinics, promoting belongingness and safety as they navigate different departments for clinical sessions and teaching. It is recommended that a further study should be conducted with a bigger cohort. In addition, Maslow's needs can be employed in other specialties where students may feel lost or under appreciated, in hope to motivate them to become happy, keen and enthusiastic learners.

D1097

EXPERIENCE BASED SIMULATION TRAINING IS ADVANTAGEOUS COMPARED TO AN OBSERVER CENTRIC APPROACH IN FIRST-YEAR RESIDENTS

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Background and Aims

Simulation-based medical education has proven to be a widely utilised medium of instruction with consequent variegation in its conduct. Rising healthcare education resource constraints coupled with competing demands for resident teaching hours have strengthened the focus towards maximising teaching efficiency. Our study evaluates if experience based simulation training yields greater benefits compared to an observation-centric approach.

Methods

78 first year internal medicine residents were recruited over two cycles of simulation training in 2017 and 2018. In 2017, 42 participants underwent weekly simulation-based clinical scenarios conducted over 5 weeks. Selected residents would participate for each weekly scenario with the rest playing the role of observer. The same clinical scenarios and learning objectives were condensed into a one day simulation course which was conducted for 36 participants in 2018. Residents were organised into small groups with participation in all scenarios. A structured questionnaire was administered prior to and after the simulation to compare participants' knowledge, experience and confidence in managing the clinical scenarios.

Results

Both batches agreed/strongly agreed that simulation was realistic (89.7%) and showed gains to knowledge, experience and confidence following simulation training. Residents who underwent experience based simulation training in 2018 showed significantly better improvements in knowledge ($p=0.049$) and confidence ($p<0.001$). Both batches reported similar gains in experience.

Conclusion

Simulation training is a valuable method of instruct for first-year residents in cultivating knowledge, increasing experience and instilling confidence. Condensing training into a focused one day course facilitated increased resident participation when compared against a weekly observer based method of simulation training. This translated into greater gains in the domains of knowledge and confidence.

D1098

CROSS SPECIALTY EDUCATION. A SINGAPORE EXPERIENCE

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Background and Aims

It is imperative that all medical doctors should be aware of critical clinical emergencies. These events include clinical emergencies that are outside their own specialty training. In our current climate of early subspecialisation, our residents are exposed to the risk of being unaware of critical clinical emergencies outside their specialty training.

We aim to design a set of training modules to facilitate cross specialty education, so that all residents, irrespective of their discipline, will be aware of critical clinical emergencies of the other disciplines. We call it "critical events not to be missed".

Methods

We devised a strategy in which we send out a monthly quiz to all the medical officers. Each month is pivoted upon a set of 5 critical clinical emergencies scenario peculiar to one speciality. There are a total of 24 specialties in Tan Tock Seng Hospital. Hence this runs a 2-year cycle. At least 5 scenarios each month are presented in a quiz format; ie question and answer and will be emailed to all the medical doctors in Tan Tock Seng Hospital every month.

With the implementation of the monthly quiz spread over 24 months and covering all specialties, we hope it will aid and improve the doctors' awareness of critical events outside their subspecialty.

The quizzes are also available on the Learning Management System (Hospital E-Learning platform).

Results

The online quizzes are not made obligatory, more than 200 medical doctors have participated and at least 20 medical doctors have gone through each specialty quiz on a monthly basis. Through these monthly quizzes, all medical doctors should be aware of the critical events within and outside their specialties.

Conclusion

This cross-specialty monthly training module has benefited doctors in increasing awareness of common critical events in every specialty. The next important phase would be to improve the participation rate of these monthly cross-specialty training modules.

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D1099 **Paediatrics Preparatory Bootcamp for Student Internship Programme in Singapore – Does it Improve Confidence and Clinical Knowledge?**
Gabriel Low Wei Ting, Singapore

D1100 **Admission Criteria as Early Predictor for Academic Performance of Medical Students (In the Implementation of a New Curriculum in UNISBA-Indonesia)**
Siska Nia Irasanti, Indonesia

D1101 **Place of Edutainment in Medical School**
Jennifer Nailes, Philippines

D1102 **Re-analysis for the Reliability of VSOP Method: Work-Based Assessment Tool for Clinical Reasoning by Listening to Case Presentations**
Hirotaka Onishi, Japan

D1103 **A Comparative Assessment of Perception and Learning by Traditional, Smart Board and Interactive Teaching**
Lata Mullur, India

D1104 **Senior Residents' Ratings of Radiology Residency Training Components**
Tang Phua Hwee, Singapore

D1105 **Quality Improvement Programme on the "Over-Use" of Transthoracic Echocardiography- Rationale and Design**
Punitha Arasaratnam, Singapore

D1099

PAEDIATRICS PREPARATORY BOOTCAMP FOR STUDENT INTERNSHIP PROGRAMME IN SINGAPORE - DOES IT IMPROVE CONFIDENCE AND CLINICAL KNOWLEDGE?

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Background and Aims

As part of the curriculum, students from the Yong Loo Lin School of Medicine undergo 4 weeks of Student Internship Programme (SIP) in Paediatrics. We conducted a preparatory bootcamp prior to the SIP, using four common paediatric topics: Fluids, Fever, Respiratory Distress and Seizures. Each station involves interactive discussion on common cases and the approach to the clinical problems.

We sought to assess the effectiveness of the Preparatory Bootcamp in improving Confidence and Clinical Knowledge in preparing the students to be clinically competent and confident for the actual SIP. We also aimed to understand if there is a correlation between overall confidence and clinical knowledge.

Methods

Students in groups of 5-6 were rotated through 4 stations mentioned above. An anonymised questionnaire was given to all the participants. A 5-point Likert Scale was used to assess different aspects of Confidence (1 being the most confident, 5 being the least). The different aspects were History-taking, Physical Examination, Investigation, Acute Management, Chronic Management, Clinical Approach, Presentation Skills, Developmental Assessment and General Confidence in doing well. 10 clinical questions were used to assess Clinical Knowledge in the 4 topics. Statistical analysis was performed using univariate analysis and simple linear regression.

Results

A total of 87 students participated in the bootcamp. A pre-bootcamp questionnaire (n=85) and post-bootcamp questionnaire (n=83) was given to the participants.

Clinical confidence improved in all aspects - history taking (2.70 to 3.49), physical examination (2.78 to 3.53), investigation (2.70 to 3.48), acute management (2.77 to 3.61), chronic management (2.94 to 3.73), clinical approach (2.78 to 3.52), presentation skills (2.78 to 3.68), developmental assessment (3.06 to 3.53) and in general (2.99 to 3.68). While improvements were seen, overall number of students who put "Strongly Agree" or "Agree" is still low (31%).

Overall Clinical Knowledge improved (36% to 53%) after the bootcamp, although the absolute Knowledge score post-bootcamp was low. Greatest improvements were seen in questions assessing Seizures (4% to 30%) and Fever (10% to 40%).

Pre-bootcamp quiz scores and confidence showed poor correlation (pearson's correlation = 0.125, R-squared 0.016). There was even a decrease in correlation after the bootcamp (pearson's correlation = 0.023, R-squared 0.001).

Conclusion

Lack of confidence is a common problem among students prior to the Paediatric SIP. Although the bootcamp helps improve overall clinical knowledge of students, this does not translate into students being more confident with being an intern during SIP. Poor linear correlation between confidence and clinical knowledge before and after the bootcamp suggests that confidence is not significantly affected by clinical knowledge. This study shows that confidence in performing well during SIP is not solely dependent on the amount of knowledge in the subject matter, but it likely involves other factors as well. More studies should be done to explore other methods to improve confidence. This study does not assess the eventual performance of students during SIP program, but the bootcamp has shown to be effective in improving clinical knowledge of the students which hopefully better prepares them for the SIP program and thus translates to better performance.

D1100

ADMISSION CRITERIA AS EARLY PREDICTOR FOR ACADEMIC PERFORMANCE OF MEDICAL STUDENTS (IN THE IMPLEMENTATION OF A NEW CURRICULUM IN UNISBA-INDONESIA)

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Background and Aims

The strong competition allows medical schools to be highly selective in their admissions, with the aim of selecting only those students who are most likely to complete their medical education and presumably become good doctors; it also minimises the number of poor performers or 'strugglers', who were reported in one study to account for academic. The validity of an admission criterion is defined as the degree to which it predicts an applicant's performance during and after his or her undergraduate medical training, and reliability is defined as the reproducibility of the results obtained when a measurement is repeated on the same study sample. Several studies also show that several non-cognitive factors have a significant influence on academic success at university, additional to the influence of prior academic attainment. Bandung Islamic University (UNISBA) School of Medicine uses specific requirements of criteria admission test for applicants with good score of high school performance. Due to evaluation process during curriculum development, we were tried to find the early predictor of student academic success from admission criteria.

Our new curriculum began in 2015. It had several new blocks such as study skills and critical thinking, Islamic education as our specific value, humaniora as civil education and pancasila as our basic principle of nationality, and doctors effective communication based on community health. We also add basic introduction to basic science such as cell, tissue, organ, molecular biology and genetics, basic diagnostic and therapy (20 credits).

The purpose of this research is to assess the correlation between the admission criteria and students academic performance in the implementation of a new curriculum through their Grade Points Average (GPA) in the first and second year of learning.

Methods

Data was collected from first and second year students who entered UNISBA School of Medicine in the year of 2015. A cross-sectional research was conducted on 27 selected students who had completed the specific requirements of criteria admission test. The variables examined were high school grades, academic and non academic achievement, Multiple Mini Interview (MMI) and Minnesota Multiphasic Personality Inventory (MMPI) Test. The statistical was used SPSS and spearman correlation test analysis.

Results

The result shows there was significant correlation and moderate relationship between the average of the high school grades with the first year GPA were revealed with $p<0,001$ (p value ≤ 0.05) and correlation coefficient ($r_s = 0.38$). And there was significant correlation and strong relationship between the average of the high school grades and the second year GPA were revealed with $p<0.001$ (p value ≤ 0.05) and correlation coefficient ($r_s = 0.67$).

Conclusion

The high school grades is useful as early predictor for academic performance of medical students.

D1101

PLACE OF EDUTAINMENT IN MEDICAL SCHOOL

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Background and Aims

Edutainment is a derivative word that mixes entertainment and education. Edutainment has been used in educational computer games based on learning theories since 1970s. The current medical students are students who belong to the generation who are largely exposed to educational computer games while growing up. This concept of edutainment in some classes in medical course may be applied so that important and difficult subjects will be learned faster and be integrated deeply. The aim of this study is to determine what edutainment strategies can be employed in medical education.

Methods

Recently graduated medical students were asked what strategies were employed by their professors regarding edutainment during their 4 years of medical school. Edutainment was briefly explained. The survey which consisted of open-ended questions was done thru email and they were told that this is research done by one of their professors. Follow up questions were done if the answers deemed elaboration as perceived by the investigator.

Results

Among the identified strategies are:

Using videos to get the students' attention help in remembering the topic. Relating the topic to current trends or pop culture or making simple analogies helped the students remember the topics discussed. Many liked the music video the lecturer presented which was downloaded from YouTube. Showing new videos about current breakthroughs in medicine that can be related to the lecture are also advantageous. Showing exciting patient cases as examples are entertaining as well as educational while also giving them idea what kind of workplace environment medicine can be like. In this way, the educator made visible efforts to make the subject matter relatable to the learner. Incorporating stories from the clinics and not just the usual clinical information but actual experiences in handling the patients made the topic more understandable. In this way, students would understand why a particular piece of information is important to remember later on.

They also cited that when the lecture was tailor-fit to the class, such as using names from classmates or professors as mnemonics, that recall is better without being boring.

Some also mentioned that making use of games in delivering the lecture are entertaining and enlightening.

However, for teachers who prefer to use the conventional PowerPoint presentation, graphics such as funny cartoons add entertainment value. They personally prefer is to see more visuals that simplify the topic like videos and pictures.

The professor who is lively is preferred by the students as the former is deemed to be also enjoying the lesson being taught.

Conclusion

Edutainment has a place in medical school. Combining use of sound, animation, video, writing and picture and a place where learners both have fun and learn is feasible even in medical schools. Application of edutainment in both the basic and clinical sciences may help bridge that gap between theoretical knowledge and its application that so many students who in their retrospect seemed to lack.

D1102

RE-ANALYSIS FOR THE RELIABILITY OF VSOP METHOD: WORK-BASED ASSESSMENT TOOL FOR CLINICAL REASONING BY LISTENING TO CASE PRESENTATIONS

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Background and Aims

Vague, Structured, Organised and Pertinent (VSOP) method is a work-based assessment tool for clinical reasoning by a preceptor listening to a case presentation. The aim of this study is to reanalyse the reliability of VSOP method.

Methods

The original study was conducted from August to October, 2011. Three residents in Johoku Hospital in Japan interviewed new patients in the outpatient department and were asked to present cases to a senior preceptor. Their clinical experiences are sufficient to assess the residents by VSOP method-"vague", "structured", "organised" and "pertinent"- depending on the

sufficiency of differential diagnoses and pertinent positive and negative signs/symptoms. For the scoring, "vague", "structured", "organised" and "pertinent" were converted to 1, 2, 3, and 4 respectively. Analysis was conducted by unbalanced generalisability theory, one-facet of rater nested by resident. Statistical analysis was conducted by urGENOVA. The study was approved by the ethics board committee in Johoku Hospital.

Results

Residents see 111 patients in total during the study period and seven preceptors had precepting and marked VSOP method sheets. Marks were "pertinent" for 41% and "organised" for 48% of all. Variance component for residents accounted for 22% of whole variances. Phi-coefficient was 0.91. Decision study revealed that phi-coefficients of 0.7, 0.8 and 0.9 can be achieved with 9, 14, and 32 cases respectively.

Conclusion

VSOP method was securely utilised as a reliable assessment tool for clinical reasoning in postgraduate training level. This method can connect precepting and assessment for diagnostic reasoning in outpatient department without major problem.

D1103

A COMPARATIVE ASSESSMENT OF PERCEPTION AND LEARNING BY TRADITIONAL, SMART BOARD AND INTERACTIVE TEACHING

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Background and Aims

Teachers in higher education need to focus on how to facilitate student learning instead of focusing on what to teach. Traditional lectures are gradually being augmented or replaced by other methods such as videotape, computer aided instruction, web based teaching, case-based teaching, and small-group seminars etc. Characteristics of active learning include student involvement through more than just listening, emphasis on developing cognitive skills. Active learning methods help students in developing concepts, understanding principles and applying knowledge in clinical work. In view of this, the present study is aimed to know the perception of students regarding use of traditional, Smart board and Interactive Teaching during the lectures.

Methods

Cross sectional study was conducted on 150 first MBBS students of B.L.D.E.(DU), Shri.B.M.Patil Medical College, Vijayapur (Karnataka, India) .Purpose of study was explained to the students and informed consent collected from them to participate in the study. All the students were randomly divided in to three groups (I,II & III). Using selected single topic, each group was taught by different methods. Group I (n=50) - Traditional (Chalk & Board), Group II (n=50) - Smart board and Group III (n=50) - Interactive Teaching. A questionnaire regarding perception of the teaching modules was administered to the students. Their learning was assessed immediately by pre-validated Multiple choice questions. Data is expressed in Mean and SD. Significance difference between three groups was done using non-parametric ANOVA. Multiple Comparison Test was used to analyse significant difference between two groups.

Results

There is significant difference between traditional & smart board teaching and traditional & interactive lecturing. As far as superiority of particular method is concerned, students preferred and scored more following interactive teaching compared to other methods. Student preferred a combination of teaching aids as and when required.

Conclusion

It is important to know what our students need. Frequent feedbacks may help teachers to plan the curriculum and improve upon the teaching. Depending on the topic to be covered the teaching methods should be used appropriately.

D1104

SENIOR RESIDENTS' RATINGS OF RADIOLOGY RESIDENCY TRAINING COMPONENTS.

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Background and Aims

Providing education to radiology residents involves multiple radiologists, decreases the time spent on providing clinical service and contributes to a share of the radiologists' workload. As the clinical workload increases, it would be important to ensure that residency education is not compromised. Thus this survey was carried out to determine the most useful aspects of training provided. Senior residents were approached in this survey as they would have been exposed to all components of the residency training.

Methods

Senior residents who attended afternoon lectures held in KK Women's and Children's Hospital, Singapore on one day in July 2018 were given the survey in between their lectures. The survey captured their gender and their signed consent for having the annonymised results presented and published. Residents were asked to rate the residency training components from 1 to 7, 7 being most useful and 1 being least useful. The 7 components to be rated were FRCR 2B tutorials, FRCR 2A lectures, SingHealth Residency Lectures, 1st week orientation lectures, daily reporting sessions, conducting multidisciplinary rounds, feedback from radiologists. Median scores were converted to percentages for easier appreciation.

Results

Seventeen completed survey forms were collected from 13 male residents and 4 female residents. The overall median ratings for FRCR 2A lectures, FRCR 2B tutorials, SingHealth Residency Lectures, 1st week orientation lectures, daily reporting sessions, conducting multidisciplinary rounds, feedback from radiologists were 57.1%, 85.7%, 64.3%, 28.6%, 57.1%, 57.1%, 71.4% respectively. The median ratings for FRCR 2A lectures, FRCR 2B tutorials, SingHealth Residency Lectures, 1st week orientation lectures, daily reporting sessions, conducting multidisciplinary rounds, feedback from radiologists were 57.1%, 85.7%, 57.1%, 28.6%, 57.1%, 71.4%, 85.7% respectively from male residents. The median ratings for FRCR 2A lectures, FRCR 2B tutorials, SingHealth Residency Lectures, 1st week orientation lectures, daily reporting sessions, conducting multidisciplinary rounds, feedback from radiologists were 64.3%, 64.3%, 71.4%, 85.7%, 64.3, 57.1%, 50.0% respectively from female residents.

Conclusion

In this survey of senior radiology residents, FRCR 2B tutorials received the highest rating, followed by feedback from radiologists, followed by SingHealth Residency Lectures. Daily reporting sessions, conducting multidisciplinary rounds, FRCR 2A lectures had similar ratings while first week orientation lectures had the lowest rating.

D1105

QUALITY IMPROVEMENT PROGRAMME ON THE "OVER-USE" OF TRANSTHORACIC ECHOCARDIOGRAPHY- RATIONALE AND DESIGN

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Background and Aims

The concept of "over use" in the delivery of care, defined as an inappropriate and inefficient use of healthcare resources, is when the potential for harm exceeds the benefit. In Canada, the annual expenditure for cardiac technology between 1992 and 2001 increased twofold, amounting to CAD$2.8 billion, with echocardiography ranking the second highest at CAD$498 million; the use of echocardiography was independent of the prevalence of coronary heart disease and demographic shifts. These observations draw scrutiny and question the rationale for transthoracic echocardiography (TTE) use despite available appropriate use criteria (AUC) for TTE. This abstract aimed to design a quality improvement programme (QIP) to reduce the over- use using audit & feedback (A&F) method, and define quality indicators to measure the effectiveness of the QIP.

Methods

A logic model was created to provide a road map outlining the sequence of events connecting the resources to the activities, and how the QIP can lead to the desired short-, intermediate- and long-term outcomes and impacts. Beyond the IF and THEN of the logic model is WHY these activities lead to the desired outcome(s). The theory of change links the activities and outcomes to explain WHY the desired change is expected. The selected target population was non-cardiac specialists (registrar level and above). The regular feedback sessions were considered for individual and group reflection and to discuss the challenges/shortfalls encountered and provide a sense of ownership of the QIP. An interrupted time series (ITS) analysis was chosen. ITS controls for secular trends and can identify any differences between pre- and post-intervention, as the timing of QIP implementation using A&F is clear from the onset. We used retrospective data over 2-years (eight data points) from non-cardiology subspecialties to establish a historical trend for the pre-intervention group. The data source is based on TTE request forms, electronic health record (EHR) and feedback surveys, in which data must be carefully collected and transferred.

Results

The evaluation plan describes the overall design of the evaluation procedure (e.g. what will be done, how it will be done, who will do it, why the evaluation is being conducted). This is followed by the evaluation strategy, which is used to collect evidence for the desired outcomes of the QIP, including evaluation design, data collection, analysis and dissemination, and communication of the findings. Operational indicators are used to assess the programme inputs, activities, outcomes and impact. The indicators are aimed to be specific (S), measurable (M), achievable (A), relevant (R) and time-specific (T), i.e. SMART approach. They serve as markers of progress toward the change intended to evaluate the effectiveness (does it work?), efficiency (is it worth it?) and fidelity (how are we doing?) of the interventions executed in the QIP.

Conclusion

Achievement of the intended outcomes will hopefully serve as an incentive to extend and adopt this QIP on a larger scale across regional healthcare institutions. The potential success and sustainability of these interventions should be determined using longitudinal follow-up data to justify the cost and resources incurred before adopting the interventions as nationwide policies.

SHORT COMMUNICATIONS 16

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Thilanka Seneviratne, Sri Lanka

D1107   **Teaching the Clinical Topic Review from Concept to Manuscript as a Family Medicine Elective**
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D1108   **Guided Creation of Case Studies by Dental Students to Augment Integrated Self-Directed Learning**
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D1112   **The Impact of Using Interactive Real Case Scenarios with a Live Audience Response System in a Large Classroom Teaching**
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D1106

FIRST YEAR MEDICAL STUDENT'S PERCEPTION ON MEDIUM OF INSTRUCTION IN THE MEDICAL CURRICULUM IN THE FACULTY OF MEDICINE, PERADENIYA, SRI LANKA

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Background and Aims

The language of instruction for medical students at the Medical Faculties of Sri Lanka is English, which is not their mother tongue. This presents a potential barrier to their academic learning. The number of new terms introduced in the textbooks is high and potentially creates stress in the students during the initial stages of medical education.

We aim to explore the students view on the medium of instruction in the medical curriculum at the start of their medical course.

Objectives
To assess the first year student's perception about the medium of instruction in medical curriculum

Methods

First year students of faculty of medicine, University of Peradeniya were included in the study during the month of June 2018. Informed consent was taken from all the students who volunteered to participate and whose mother tongue is Sinhala. They were given a self- administered anonymous questionnaire in five- point-likert scale (strongly agree 1 to strongly disagree 5) to assess their perception about the medium of instruction.

Results

A total of 127 students participated in the study. 87.02% had 'A' grade for the English language in their GCE Ordinary level exam at school. 13.74% of them had studied in English medium for their ordinary levels whereas only 2.52% had studied in English medium for their GCE advanced levels. 62.7% of students mentioned that they can obtain higher marks when answering examination questions in Sinhala language. 61.4% mentioned that they can express ideas better if clinical examinations were to be conducted in Sinhala language. 51.2% felt that if the teacher teaches in Sinhala, the class room atmosphere would be more helpful for learning.

However 68% were in the opinion that the medical education should be in English.54.2% mentioned that the Sinhala should be used as the main medium of instruction at the beginning of term gradually increasing the use of English as a medium of instruction so that students can get used to studying English step by step.

75.8% agreed that the greatest difficulty in using English to study is learning a great many new words and felt that it will be more useful if medical terminology related English classes /courses are introduced during the University English course time.

Further, 79.2% mentioned that the teacher using both English and Sinhala within the same lesson can facilitate students to study medical subjects.

Conclusion

Majority of students were in the opinion that they can perform better if mother tongue is used as a medium of instruction. Combined use of English and Sinhala (the mother tongue) for medical education is appreciated by a clear majority of students.

TEACHING THE CLINICAL TOPIC REVIEW FROM CONCEPT TO MANUSCRIPT AS A FAMILY MEDICINE ELECTIVE

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Background and Aims

The clinical topic review is offered as an option in the Undergraduate Family Medicine Elective. Students choose a topic for review from the clinical cases encountered. Approval was given if the topic chosen had enough papers in PubMed for a topic review. The purpose is to provide enough face-to-face class teaching and individual coaching for the completion of the topic review, a PRISMA flow diagram, 10 slide PowerPoint presentation and a first draft manuscript.

Methods

A flip-classroom method using (1) pre-readings, (2) PubMed key word searches, (3) face-to-face teaching and demonstration, (4) individual coaching on email and telephone discussion was used. Two face-to-face sessions were conducted.

Results

Of a total of 29 students taught over 4 batches; all completed the course; all except 1 presented their topic reviews in class; and 28 completed the first draft of the manuscript of their topic reviews.

Conclusion

A flip-class room method of teaching using the clinical consultation sessions to generate a clinic topic review, pre-readings, face-to-face teaching and demonstrations, and individualised coaching succeeded in 76.0% (22/29) students giving a good to excellent powerpoint presentation, and 96.0% (28/29) of students completed at least the first version manuscript of their topic review.

GUIDED CREATION OF CASE STUDIES BY DENTAL STUDENTS TO AUGMENT INTEGRATED SELF-DIRECTED LEARNING

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Background and Aims

Second-year dental students receive a series of eight pharmacology lectures on anti-microbial therapy. While the lectures focus on pharmacology related knowledge, rationalisation of drug choice requires the students to think across disciplines including microbiology and pathology, and integrate them with the patient's case history. While year 2 students are not expected to diagnose or suggest a course of treatment, it is important that they begin to integrate content from different disciplines and recognise how the different arms of information can impact drug choice.

Thus the aims of this study was to investigate the effectiveness of case study creation as a tool to

1. Enhance self-directed learning

2. Integrate concepts on anti-microbial use with related knowledge from other disciplines

3. Strengthen pharmacological concepts underpinning anti-microbial drug use

Methods

The class was divided into four groups (13 - 14 students per group). Each group created a case study on an assigned topic (e.g. dentoalveolar abscess). Detailed guidelines and a complete case example with questions and answers were provided to help students model their case. Student-created cases were vetted by lecturers, and a dental surgeon. After vetting, areas demonstrating misconceptions were highlighted to the groups but correct answers were not given. Students then modified and resubmitted the cases, which was circulated to the whole class prior to presentation day (without answers). We conducted a qualitative analysis of the student-created cases and collected evidence that contributed towards the accomplishment of the specific aims, which we had set out. 2 independent coders also coded the questions created in accordance to SOLO taxonomy [Unistructural(U), Multistructural(M), Relational(R), Extended Abstract(E)]. Percentage agreement was 0.85 and Cohen kappa's inter-rater reliability was 0.778. A binary yes or no (1/0) analysis denoted the presence or absence of the other stated evidence.

Results

Evidence from student-created cases, which contributes to the achievement of Aim 1: Presence of reference materials outside lecture notes, developing learning outcomes, questions and answers. Aim 2: Questions with content from non-pharmacology related disciplines, and questions which integrate concepts of more than one discipline Aim 3: Applying the principles of antibiotic stewardship, rationalising drug choice based on patient/drug related factors, and analysing/evaluating content that could demonstrate drug or treatment options that may not be common choices. Case creation was found to be a useful tool to increase integrated self-directed learning by students. Evidence further sub-analysis of the questions and answer section revealed varying levels of cognitive processing from surface level interrogation (U to M) to deeper relational (R to E) rationalisation of the concepts. Integrating more than one discipline in the content helped to create higher order questions that required greater analysis.

Conclusion

These results raise the question as to whether modification of the guidelines to stipulate a minimum number of questions, and the number of integrated questions could increase the overall rigour of the cases created and encourage deeper learning. Future case creation classes could involve these additional steps as an intervention. This method of case assessment could also help teachers in creating cases that would encourage higher order thinking in students.

D1109

COMMUNITY-SERVICE EXPERIENCE DURING PRECLINICAL YEAR CAN BUILD CONFIDENCE IN URINE ANALYSIS SKILL OF THAMMASAT MEDICAL STUDENT

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Background and Aims

Urine analysis is rapid and valuable investigation, both for individual health checkup and clinical monitoring in hospital. Proficient in laboratory performance and interpretation are necessary basic skill for medical students. Limited hands-on urinalysis during preclinical year can leading to lacking confidence in clinical-studies period. UA servicing in one-day mobile medical unit could be not only an opportunity for practicing lab skill but also providing cooperative experience.

Methods

A group of volunteers, mainly the third year medical students, was recruited in a few months before the activity. The students was reassured urinalysis principle, laboratory skill and report writing by professors, who would also mentor them on service day. The collected urine specimens, from people who had willing to test, were investigated in proper aspects including: visual appearance, specific gravity, chemical analysis by test strip and microscopic examination. The individually UA result was reported to medical doctor, who would inform the abnormality to the patient. After the activity, the participants were asked to evaluate their satisfaction in one-to-five rating-scale questionnaire.

Results

From two-years cumulative data, 64 medical students were answered the survey. Majority of respondents joined the activity since their need to be prompt for clinical usage and to be experienced in community service (more than 92 %, answered above "4" scale). More than 78 percent of participants positively agreed that they gained more confidence in urine analysis from the event. No difference in activity's satisfaction among urban/rural hometown or level of learning performance. Unfortunately, most of the students (90.63 %, answered above "4" scale) recommended juniors to participate in the coming occasion.

Conclusion

According to Thammasat curriculum, principle of urine analysis and laboratory had been taught during the second year. The student's laboratory skill was diminished in a later year, which directly affect clinical student's confidence to perform urine investigation. Community service ware not only brought them an extracurricular experience in lab skill but also interpersonal and communication skills. Moreover, The happiness that raised around unusually lab bench with friends and supervisors might be pictorialised in their memory longer than previously serious one. An appreciation of medical students' contribution to urinalysis servicing has been observed from civilian and students' evaluation. The great opportunity for educators to empower preclinical learner in laboratory skill and their giving mindset.

INNOVATIVE CURRICULUM ON INQUIRY-BASED & COLLABORATIVE LEARNING

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Background and Aims

Inquiry-based learning (IBL) is an inquiry process that engages learners in evidence-based practices and promotes critical thinking ability. Evidenced-based medicine (EBM) is a competency required from trainees as it represents a cornerstone of clinical medicine. The IBL's steps allow learners to integrate prior knowledge and clinical experiences with the best available evidence from systematic research. Moreover, the nature of the practice of medicine requires collaboration and team-building skills; another competency mandated by accreditations bodies like ACGME. Our model incorporated IBL, EBM and team-based learning using blended learning in the medicine clerkship.

Methods

We followed the steps of IBL and incorporated EBM as follow:

1. Activating prior knowledge: Students have prior theoretical knowledge on EBM in preclinical years.

2. Providing background information: online module and practice (Gaming) are pre-requisite for session

3. Defining outcomes for which students will be held accountable: a rubric and the objectives are pre-identified and shared with students.

4. Modeling design and product outcomes: The module was divided into two sessions, and one intersession all are well described to students; also, the teams are assigned and shared with students

5. Established a general topic or inquiry and established and communicate inquiry presentation framework. The teams collaborates by choosing a clinical scenario, consult with the clerkship director as well as the librarian and prepare 25 min typical EBM format presentation.

There is an opportunity for students to interact and involve in the discussion in the presence of the faculty and the librarian.

Results

Initial analysis of data indicates that the new system is well received by students. After moving to a gamified online module, 78% of students report high levels (7+ out of 10) of engagement. When choosing evidence, 88% of student groups selected best-level evidence for analysis. Finally, students' collaboration and presentation grades both averaged 4.11 (out of 5) respectively.

Conclusion

The module brought theoretical knowledge to practice and applied principles of best-evidenced teaching. The active learning, critical thinking, gaming, and team-collaboration are holistically taught and learned in this exercise. In addition, it gives the opportunity to students to receive feedback on their presentation skills. It's an innovation well received by students.

FLIPPED CLASSROOM TEACHING FOR CLINICAL YEAR MEDICAL STUDENTS: FROM BASIC SCIENCE TO INFORMED CONSENT

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Background and Aims

A properly conducted informed consent conversation is recognised as an important measure to safeguard patients' autonomy in clinical practice. Training on informed consent conversation should include formal teaching on the ethical concept of autonomy, observation and practice with feedback from mentors. This educational need for the medical students is usually unmet and substituted by the hidden curriculum which is created by observing junior doctors simply signing the consent form for medico-legal purpose, without a proper conservation.

Methods

We developed a new teaching programme to fill in the knowledge gap and the programme consist of:

- An e-lecture explaining the ethical principle of autonomy in informed concept conversation with reference to general surgical practice.

- An e-tutorial with annotated video demonstrating essential element of informed consent conversation.

- Supervised practice of a real informed consent conversation.

The new teaching programme was developed and evaluated by 12 final year medical students preliminarily. Students' confidence level in discussing and signing the informed consent for the procedure of elective surgical repair of inguinal hernia before and after viewing the newly developed e-learning video were evaluated. Their overall satisfaction level of the e-learning material was also assessed. All the evaluations are in 5-point likert scales. Highest score 5 represent the most confident and satisfied level while lowest score 1 the lowest level.

Results

Students felt more confident in discussing the procedure (average score 2.92 before viewing the material, 4.33 after) and signing the informed consent (average score 3.17 before vs 4.25 after). The over satisfaction about the e-learning material is also high (average satisfaction score 4.58). The programme will be implemented in fourth quarter of year 2018 and further evaluation will be conducted.

Conclusion

Final year medical students agree that e-learning material in teaching informed consent is useful and they are more

THE IMPACT OF USING INTERACTIVE REAL CASE SCENARIOS WITH A LIVE AUDIENCE RESPONSE SYSTEM IN A LARGE CLASSROOM TEACHING

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Background and Aims

The challenge of teaching in a large classroom setting is that keeping learners focused on task is difficult. Challengers include difficulty for the teacher to give individualised feedback, the large majority of the class fails to participate, it is difficult for learners to stay focused and pay attention and failing to address the mixed abilities in each class. Educators empathise with the learners but feel frustrated when learning does not take place. We hypothesised that using interactive real case scenarios and engaging students with problem solving coupled with the use of technology ('Poll Everywhere') may address some of these challenges.

Methods

Diabetes emergencies management is usually a 2 hour lecture. It was conducted on 74 registered nurses. They were given a pre-course test and a post-course test. A real case scenario was used and interactions conducted using the audience response system: "Poll Everywhere". Subsequently, three short cases were discussed wherein the nurses were asked to identify potential problems and solutions. The key points were reinforced at the end of the lecture.

Results

A paired t-test was conducted to if there is a significant difference between pre-test and post-test score. The mean pre-test score was 56.76(SD=13.89) and the mean post-test score was 78.11(SD=17.87). There was a statistically significant increase in test score ($p < 0.001$).

Conclusion

The course evaluation results showed that the use of interactive real case scenarios combined with live audience response system is effective for teaching nurses. The result of this survey needs to be validated in a large sample size and compared with traditional classroom nursing lectures.

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D1114	**Two-Year Experience of Team-Based Learning in Nursing Education in Japan** Harumi Gomi, Japan
D1115	**The Changing Role of the Medical Supervisor** Lambert Schuwirth, Australia
D1116	**Anxiety Level of Medical Students Dealing with Objective Structured Clinical Examination (OSCE)** Uswatun Khasanah, Indonesia
D1117	**Planes of Reference for Orbital Fractures (PROF): Reducing Inter-Observer Variability and Improving Learning Gains Using Peyton's Four-Step Approach** Elijah Cai Zhengyang, Singapore
D1118	**A Brief Evidence-Based Education Intervention for Enhancing Clinical Reasoning Using the Pain and Movement Reasoning Model: Development, Delivery and Feedback** Lester Jones, Singapore
D1119	**Use of Standardised Patients in Medical School Education: A Review of Current Literature 2008-2017** Katherine Nay Yaung, Singapore

D1113

LEARNING PATTERNS WITH THE TEACHING DEVELOPMENT OF PHYSICAL MEDICINE AND REHABILITATION SUBJECT FOR LEARNERS IN THE 21ST CENTURY

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Background and Aims

In the 21st century, the modern instructions have been focusing on learner as a centre of education and apply media to be the important part of instruction. So, it's the role of instructor to determine the most effective learning strategy to the learner. Especially, medical students must have variety of knowledge and the positive attitude toward patient's treatment. The purpose of this study is to develop the learning and assessment the understanding and satisfaction of medical students for improving quality of learning.

Methods

This study is a research and a development in learning and teaching strategy. The scope is Physical Medicine and Rehabilitation subjects in cerebrovascular disease topic at Somdejphrajaotaksinmaharaj Hospital Medical Education Centre on 2016 - 2017. The instructor set the learning patterns and structures of learning in 3 steps include: (1.) study from the pictures (2.) study from the video and (3.) study from bedside teaching. Then, 15 medical students were assessed by questionnaires.

Results

The response rate from 15 medical students was 100%, before this study, 7 (47.6%) medical students have little knowledge about the positioning of hemiplegic patients. After the instruction on 3 steps: Learn from pictures, 7 (46.7%) medical students have medium rating scale on understanding in learning, Learn from video, 10 (66.7%) medical students have high rating scale and the highest rating scale was from bedside teaching 14 peoples (93.3%). Most of them (86.7%) believed that all of the learning in 3 steps was beneficial in combining with teaching development.

Conclusion

The 3 step instruction style was designed and developed by the instructor. It enhances medical students to be more confident in systemic management of positioning in hemiplegic patients. It can also reshape the traditional teaching and can make pleasure to students.

TWO-YEAR EXPERIENCE OF TEAM-BASED LEARNING IN NURSING EDUCATION IN JAPAN

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Background and Aims

Team-based learning (TBL) is to promote active learning in health professions education. TBL was utilised for the first year nursing students to teach infectious diseases and public health in 2016 and 2017 at the Department of Nursing, Ibaraki Christian University in Japan. This study is to investigate perceptions among the nursing students on TBL.

Methods

Our first year nursing students were divided into a group of 6-8 in each class on site in both 2016 and 2017. Team-based learning at our institution was designed as pre-class assignments, group discussion, group presentation, plenary discussion, and a wrap-up short lecture in each class. At the end of the course, an anonymous computer-based questionnaire was administered on the TBL. The questionnaire using a Likert scale (1-5, strongly disagree to strongly agree) included ten questions on the pre-class assignments, understanding of the content, group discussion and presentations, the wrap up lectures, if students would recommend the pre-class assignments to students next year.

Results

A total of 168 nursing students were registered for the above courses in 2016 and 2017. Among them, 166 students responded to the questionnaire (response rate 98.8%). Over 82% of the students thought that the pre-assignments were useful. The amount of the pre-assignment were appropriate among 72 students (43.4%). Approximately 60% (99 students) understood the content. The group discussion and presentation were useful (66%, 63%, respectively). A total of 118 students (71%) would recommend this course for next year students. Strikingly sample quizzes before the final examinations were perceived useful among over 90% of the students.

Conclusion

In the consecutive two years, team-based learning was new to our first year nursing students. TBL was positively perceived and highly accepted among them. This format can be implemented further to promote active learning in our institution. TBL seemed promising to promote active learning in nursing students in Japan.

THE CHANGING ROLE OF THE MEDICAL SUPERVISOR

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Background and Aims

Research suggests the most common motivation for being a supervisor is a love of teaching. However, a supervisor requires far more than just a desire to teach. The medical educational literature is rapidly growing but many supervisors are unaware of the advances which have been made due to competing clinical demands and a difficulty in translating the literature into practice. To ensure a healthy future, doctors need to have a broad range of clinical competencies. This includes, although not limited to, an ability to be reflective, interact and practice in different contexts, deal with uncertainty and complexity, be a life-long learner, engage in problem solving and appreciate the impact of society and culture on health. for trainees to learn and develop these competencies, competent supervisors are needed.

Aims
To develop a supervisor course which translates best available evidence in medical education into the practical skill of being a supervisor.

Methods

A comprehensive review of the health education literature was conducted. Key areas were identified. Educational concepts were translated into clinical practice and case studies. Content was developed into an online course with a programmatic assessment framework applied. This was then piloted with supervisors and an evaluation of learning outcomes and acceptability of use undertaken.

Results

The content was able to be developed into an online course which underwent peer review with positive feedback. Small changes were implemented as a result of the pilot. Evaluation data is still being collected.

Conclusion

A healthy future needs excellence in medical teaching. Supervisors have the responsibility of coaching trainees to have a broad range of competencies, more than just clinical knowledge. Evidence from best practice in medical education can be translated into an online course which is relevant for supervisors in their daily teaching.

D1116

ANXIETY LEVEL OF MEDICAL STUDENTS DEALING WITH OBJECTIVE STRUCTURED CLINICAL EXAMINATION (OSCE)

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Background and Aims

Background: Anxiety is a response towards certain stressful condition caused by unknown intrapsychic conflicts. It normally happens in concert with development, new changes, or new experiences. One of the physiological signs of fear or feeling threatened is increased heartbeat. Exam is known to cause anxiety. Objective structured clinical examination (OSCE) is one of methods used to assess medical student's competency in clinical skills.

Aims: This study aims to describe anxiety level of medical students dealing with OSCE and to analyse its influence to students' OSCE passing rate.

Methods

This is a cross sectional study involving 146 medical students as subjects. Anxiety level was assessed by using Zung Self-rating Anxieting Scale (ZSAS) questionnaire. Rank Spearman test was used to analyse the correlation between anxiety level and OSCE passing rate.

Results

Four students out of 146 (2.7%) run into severe anxiety, 76 students (52.1%) had moderate anxiety, and 66 (45.2%) underwent the mild one. Rank Spearman analysis showed that anxiety level does not significantly affect students' OSCE passing rate (p = 0.342; CI 95%).

Conclusion

OSCE does not cause anxiety in medical students.

D1117

PLANES OF REFERENCE FOR ORBITAL FRACTURES (PROF): REDUCING INTER-OBSERVER VARIABILITY AND IMPROVING LEARNING GAINS USING PEYTON'S FOUR-STEP APPROACH

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Background and Aims

The orbital cavity has a complex asymmetrical conical shape. Interpreting facial computed tomographic scans is challenging. We have developed Planes of Reference for Orbital Fractures (PROF) to improve the accuracy and simplicity of interpreting facial computed tomography scans. PROF utilises anatomical landmarks on facial computed tomographic scans to define standardised planes for evaluating the orbits. This study evaluates the inter-observer variability of PROF, and its associated learning gains (knowledge and confidence).

Methods

8 observers with no clinical experience were recruited and assigned to two groups. The control group was taught PROF using a conventional method of verbal teaching with demonstration (2-step approach). The experimental group was taught PROF using Peyton's technique (4-step approach). This approach includes: 1. Demonstration - Trainer executes PROF without explanation; 2. Deconstruction - Trainer executes PROF with explanation; 3. Comprehension - Observer describes the steps as trainer executes the steps; 4. Performance - Observer describes and executes PROF. The observers measured the distance between the infra-orbital margin and the posterior ledge of 20 randomly selected pre-operative facial computed tomography scans of patients with unilateral orbital floor fractures. Results were evaluated using Bland Altman analysis. Pre-teaching and post-teaching multiple choice question questionnaires were administered to evaluate learning gains in knowledge and confidence in interpreting facial computed tomography scans. The knowledge questionnaire consisted of five questions with four different responses. The confidence questionnaire consisted of 5 questions, each response based on a 5-point Likert scale. Results were evaluated using paired T-Test.

Results

Intra-class correlation (ICC) of the control group's measurements was 0.728 (95% CI 0.463 - 0.881), $p<0.05$, indicating consistent results. ICC of the experimental group's measurements was 0.808 (95% CI 0.620 to 0.916), $p<0.05$, indicating excellent results.

Average knowledge score of all observers in both control group and experimental group improved significantly from a mean of 0.5 (SD±0.76) to 4.875 (SD±0.35) [Absolute gain 4.38 (SD±0.92); relative gain 97% (SD±9)], $p<0.05$.

Average confidence score of all observers in both control group and experimental group improved significantly from a mean of 6.75 (SD±2.25) to 18.25 (SD±3.20) [Absolute gain 11.5 (SD±1.77); relative gain 64% (SD±14)], $p<0.05$.

No significant difference in improvement of knowledge scores and confidence scores between control group and experimental group, $p>0.05$.

Conclusion

PROF is a simple and systematic method for performing measurements of the orbit on facial computed tomography scans. It has minimal inter-observer variability. A marked improvement in consistency can be achieved with the Peyton's 4-step teach-back method. Learning gains in terms of knowledge and confidence improved significantly with PROF, regardless of teaching technique.

D1118

A BRIEF EVIDENCE-BASED EDUCATION INTERVENTION FOR ENHANCING CLINICAL REASONING USING THE PAIN AND MOVEMENT REASONING MODEL: DEVELOPMENT, DELIVERY AND FEEDBACK

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Background and Aims

Clinicians working with people suffering pain need to consider a biopsychosocial paradigm and be familiar with contemporary concepts of pain. Evidence suggests health professionals, including physiotherapists, require a change to their approach to better manage pain. The Pain and Movement Reasoning Model was developed as a tool to assist physiotherapists capture the complexity of pain in clinical assessment and decision-making. As part of a larger project exploring the utility of the Model, an education intervention was developed to introduce learners to the Model and the concepts that underpin it. This presentation will focus on the development of the intervention including the supporting education theory, the delivery which blended online, face-to-face and self-directed learning approaches, and some of the feedback that participants offered on the different stages of the education process.

Methods

The education intervention was delivered to physiotherapists working across a number of sites and in a range of clinical areas and so involved co-design with staff at the clinical sites. The delivery of the education package consisted of four stages - a face-to-face component (1 x 30 minutes), two online components (2 x 30 minutes) and a consolidation phase of approximately 5 weeks where participants used the Pain and Movement Reasoning Model as part of a Pain Reasoning Record. The online learning included text and videos constructed with a University-licensed programme. Links to online learning were sent to participants' staff email account. The first online resource introduced current concepts of pain and was accessible before the face-to-face session (i.e., flipped classroom approach). The second online resource focused on application of concepts in clinical decision-making and was accessible after the face-to-face session. Focus groups and interviews were conducted to evaluate the education package as part of the larger project.

Results

Seventy physiotherapists at six sites across two public hospital networks in Melbourne, Australia, were recruited to the study. Eight did not submit post-intervention responses (dropout rate of 11.4%). Thirty-one participants had less than 5 years' experience in clinical practice. The predominant clinical area of practice was musculoskeletal (n=30), followed by neurology (n=13). Most participants reported some prior formal pain education, but 20 participants (32%) reported none. Two participants had completed a pain-specific postgraduate qualification. Fifteen separate face-to-face sessions were required to accommodate participant availability including six one-to-one sessions. Feedback by participants on the education process was positive with favourable comments on content, accessibility, duration and the opportunity to consolidate. Some participants wanted more time, felt some resources could be enhanced and had minor issues with technology.

Conclusion

The learning process was easily accessible, offered blended modalities of delivery and a reflective or consolidation phase, and was well received by physiotherapists. Delivery of education in the clinical workplace requires local co-ordination and some flexibility from the educator. There are both challenges and opportunities for delivering evidence-based education to clinicians with a busy workload.

USE OF STANDARDISED PATIENTS IN MEDICAL SCHOOL EDUCATION: A REVIEW OF CURRENT LITERATURE 2008-2017

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Background and Aims

Use of "standardised patient (SP)" encounters in undergraduate and postgraduate medical schools highlight attempts to better prepare students for real-world encounters. In Singapore, all 3 medical schools employ SPs to complement students' training. This review attempts to evaluate SP programs in medical school education over the last decade as increasing costs and time constraints raise questions about the viability of this approach.

Methods

A literature search was conducted for papers from 01 January 2008 to 31 December 2017 on these databases: Cochrane Database of Systematic Reviews, ERIC, Medline (Ovid and ProQuest) and PubMed. The search terms used were: "standardised patients", "simulated patients", "programmed patients", "medical student education", "medical education" or their combinations, to find articles relating to the use of SPs in medical schools. Additionally, the references of articles were also searched to identify relevant ones that might have been missed. Inclusion criteria included: articles published in English on the subject of SPs involved in medical school education (whether undergraduate or postgraduate), or comparisons between real patients and SPs.

Results

Search engine results yielded 18344 articles in English, with 33 selected eventually. of these, 12 discussed subject-specific SP encounters (e.g. SPs in family medicine, emergency, obstetrics and gynaecology etc.). 10 focused on the role of SPs in fostering communication skills (e.g. empathy) and clinical application of knowledge. 4 made comparisons between real patients and SPs while 2 involved comparisons between real patients and peers role-playing as patients. 3 considered feedback from SPs and medical students on their experiences, 2 were random clinical trials (RCTs) and another discussed the development of a virtual SP for medical student practice.

Data focused primarily on the perspectives of the students and educators and not the SPs. In addition, few evaluations were conducted to assess students' clinical and communication skills after their SP sessions nor on the impact of SP sessions upon patient care.

The main benefits of SP encounters were (1) improving communication skills, (2) improving confidence in history taking, (3) improving long-term retention of clinical knowledge, (4) facilitating a good, non-hostile environment for student learners, (5) receiving good, specific feedback from the SPs, (6) allowing for real-time evaluation by clinical instructors.

Potential gaps in the process include (1) authenticity of the encounter, (2) lack of structured feedback from SPs, (3) a lack of data on behavior change upon students, (4) cost analysis of the SP program, (5) impact upon patient care, (6) long-term impact of SP encounters upon student practice. There is also little evidence to suggest that SP encounters truly reflect student practice due to the artificially created encounters. Furthermore, there is no guidance as to whether these encounters should be supplemented with evaluations involving "real patient" encounters or with repeated SP sessions.

Conclusion

Use of SPs in medical school education allows medical students to hone their skills in a safe environment. However, the quality of the encounters, the long-term impact of this process and its economic value needs to be evaluated.

SHORT COMMUNICATIONS 18

D1120

CURRENT STATE OF PRACTICE IN COMMUNICATION SKILLS TEACHING AND ASSESSMENT IN UNDERGRADUATE MEDICAL EDUCATION

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Background and Aims

A systematic review of patient complaints about their doctors identified problems in interpersonal communication as one of the most common issues. Interpersonal communication is central to the medical consultation, with relationship building, information gathering, and patient management and education all relying on effective communication. Learning how to communicate effectively is a core competency that needs to be mastered by medical students. There are many methods to teach communication skills, with the most effective approaches being experiential learning. Training under simulated conditions is an effective teaching method to prepare students for the application of skills to clinical settings. However, studies have found that students have difficulty transferring communication skills from the classroom into the clinical setting. Students encounter conflict between a focus on patient-centred care and effective communication and gathering complete information regarding symptoms and history to inform medical diagnosis and treatment. How and what is taught and modelled in clinical settings by preceptors or clinical educators is likely to be a critical factor in the transfer of communication skills from the classroom to the clinical setting. It is currently not clear what approaches to clinical consultations are modelled and/or taught and what teaching methods are applied by clinical educators.

Methods

This study aims to describe the current teaching practice of communication skills for undergraduate medical students. An online survey is being implemented with clinical educators and classroom or interactive session facilitators involved in communication skills training in undergraduate medical programmes in Australia and New Zealand. The survey includes items about respondents' experience in, training for, and approaches to communication skills during teaching and assessment of undergraduate medical students both in the classroom and during clinical placements. In addition, the survey will help to define the importance doctors' place on communication skills for the doctor-patient relationship, and how this is applied in medical practice. The survey responses will be analysed using descriptive statistics using frequencies, distribution and central tendency (mean, median and mode) as appropriate.

Results

This paper will present preliminary findings of the survey to explore the current state of communication skills training, both explicitly in the classroom, and modeled or applied in the clinical setting.

Conclusion

The findings will inform the development of better communication training to assist students in the transfer of skills from the classroom into clinical settings.

D1121

KINDLED OR BURNT OUT? WELLNESS AMONGST POSTGRADUATE YEAR 1 DOCTORS STARTING WORK

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Background and Aims

The average prevalence of burnout in doctors has been estimated at 40-60% from various studies, with rates in medical students being described to be as high as 55%. High burnout rates have been linked with negative personal and psychological outcomes including poor work performance, higher rate of medical errors, and depression. In a recent study performed by our group, burnout rates in the National Healthcare Group Residency Programme ranged from 46.7%-67.3% depending on the specialty. We aimed to study the prevalence of burnout in freshly graduated doctors as they begin their working life in the first post-graduate year (PGY1) and to examine possible factors associated with burnout and wellness in our cohort of PGY1s.

Methods

All PGY1 doctors starting their first posting in Tan Tock Seng Hospital were invited to participate in this cross-sectional anonymous study during orientation week. The study involves a survey that includes questions surrounding the following areas; demographics, health, possible stressors, coping strategies, the Maslach Burnout Inventory (MBI), Achievement goal questionnaire and brief resilience scale. Qualitative comments on how to improve wellness were also collected.

The MBI describes burnout on three subscales - Emotional Exhaustion (EE), Depersonalisation DP) and Personal Accomplishment (PA). Clinically significant burnout is defined as either high EE or DP. Ethics approval was obtained.

Results

The study is still ongoing but these results are from the cohort of PGY1s who started work in May 2018. There were 28 responses which accounted for 50% of the PGY1s. 43% were female and 89% were between 21-25 years of age. Responses were split evenly between two local medical schools. This was representative of the PGY1 cohort demographics. 78.6% (n=22) of the participants had high scores in either EE or DP. 46.4% (13) had high scores in both EE and DP and 28.5% (8) had high EE and DP, with low PA. A vast majority of the participants did not have health issues or financial worries. Only 10.7% were exercising at least 3 times a week, and the median hours of sleep was 4-5 hours a night, although none smoked or drank excessive alcohol. 21.4% practised either mindfulness, meditation or yoga, and most of the participants relied on friends and family as their main source of support rather than formal support structures in school. When asked how confident they were to start work as a PGY1, only 28.5% responded positively, with 43% responding that they felt burnt out. Suggestions for improving wellness included better "working hours", having faculty get to know the students on a more personal level and anonymous channels for psychological help. Reassuringly, 100% of them said "yes" when asked if they would choose to do medicine again.

Conclusion

Burnout rates are significant even before starting PGY1. More needs to be done to understand the factors contributing to burnout in local medical students and to encourage wellness in our future doctors.

We would like to acknowledge LKC medical students Lee KW, Wang HX and Fong ELS for their contribution to this study.

D1122

PROMOTING PATIENT SAFETY SKILL OF POSTGRAD MEDICAL STUDENT BY USING STUDENTS' TRANSFORMATIVE THEATERS BASED

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Background and Aims

Patient safety is an important issue in medicine and public health around the world. It's the challenge of medical school to build knowledge and awareness for medical students to see the importance of patient safety. So, Somdejphrajaotaksinmaharaj Hospital Medical Education Centre has invented the patients safety skill development project in 2017 for assesses knowledge and understanding of medical students in patient safety skill.

Methods

We have 39 postgrad medical students, 4 Doctors and 30 Interprofessionals. They are divided into 2 groups. Then each group discusses in patient safety topic. After that, they have created the event of the group and presented as a short theater. When the theaters are over, the medical students will feedback and assess the critical information about patient safety of their own group and friends. Finally, the medical students do the knowledge assessment.

Results

The overall notions about patient safety were at the highest level (mean = 4.35), which included the patient safety skill knowledge (mean = 4.46) and student's attitude and satisfaction (mean = 4.25).

Conclusion

The use of students' transformative theaters based are the one of effective tool in promoting patient safety skill. This study not only creates knowledge and understanding to the medical students but it's building knowledge transfer and experience between medical students and Interprofessionals. The use of students' transformative theaters based not only for promoting in patient safety skill, but it can build up the highest level of knowledge to the medical students that consistent with the teaching and learning in 21st century.

D1123

TRENDS, ISSUES, PRIORITIES AND STRATEGIES TO IDENTIFY AND SUPPORT 21ST CENTURY HEALTH PROFESSIONS STUDENTS NEEDING ADDITIONAL CURRICULAR SUPPORT - A MIXED METHOD STUDY IN SOUTH INDIA

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Background and Aims

Statement of Problem: A trend of first year dental students procuring less pass percentage in the summative assessment than the other academic years was observed.

Purpose of the research: The aim of the study was to identify early and support the Students Needing Additional Curricular Support (SNACS) using self-learning strategies based on learning style and Ebbinghaus forgetting curve.

Methods

Three consecutive years of first BDS batches (226 students) were studied of which two batches served as historical control (182 students) and one batch (44 students) as prospective study group. The first formative assessment performance was considered as baseline and the summative assessment performance was evaluated between the study and control group. The study group was given an intervention with self-learning strategies based on learning style and Ebbinghaus forgetting curve. The predictive ability of the first formative assessment in identifying the SNACS and the effect of self-learning strategies in supporting SNACS was determined.

Results

The first formative assessment was found to be a significant factor in predicting the students' outcome in summative assessment in both control group (y = 0.8075 x + 28.9061) and study group (y = 0.5641 x + 79.6928). The self-learning strategies improved the student performance significantly (mean difference = 16.5; t-test value = 2.7; p-value = 0.00).

Conclusion

Early Identification and support of the Students Needing Additional Curricular Support (SNACS) is crucial in Health Professions Education than providing remedial coaching after they lose in the summative assessment. Implementing self-learning strategies from the first formative assessment helps the students to improve on their academic performance.

D1124

5X5 APPROACH REDUCES A BIAS FOR 5 ORGANS OR 5 SYSTEMS IN DIAGNOSTIC REASONING

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Background and Aims

Physicians would make misdiagnoses more often than they think themselves, and various cognitive biases are responsible for misdiagnoses. Dual process theory suggests that cognitive biases are involved in intuitive System 1 reasoning, while analytical System 2 reasoning is useful for debiasing such biases.

We propose a new "5x5 Approach" as a model of System 2 reasoning. It is a combination of 2 views: 5 organs (brain, heart, lung, liver/intestine, and kidney) and 5 systems (metabolism, endocrine, blood/tumor, infection, and immune). As this is an analytical model based on the pathophysiology, we hypotheside that 5x5 Approach reduces a bias for either 5 organs or 5 systems and improves a diagnostic accuracy.

We evaluated the effect of this 5x5 Approach for a diagnostic accuracy and a bias for 5 organs or 5 systems on each resident.

Methods

Participants were PGY1 residents (n=106). The participants were randomly assigned to either 5x5 Approach group (n=46) or a control group (n=60), using the scores for the medical licensing examination.

The 5x5 Approach group had a one-hour lecture of "5x5 Approach", and the control group had a related lecture for an hour. After the lecture, the residents had an examination which asked for diagnoses for 3 different cases. We categorised each diagnosis into one of the 2 categories, either "organs" or "systems".

Results

The diagnostic accuracy for the 3 cases were 16.0%, 24.5%, 85.8% respectively, and there was no significant difference between the 5x5 Approach group and the control group by two-sample t-test (Case 1: 19.6% vs 13.3% p=0.43, Case 2: 23.9% vs 25.0% p=1, Case 3: 84.8% vs 86.7% p=0.79). As Case 3 was simple and most residents diagnosed it as the same disease in the same category, we evaluated a bias for "organs" or "systems" using Case 1 and Case 2, which were difficult enough for residents to diagnose as various diseases in each category.

In the control group, the categories of diagnoses for Case 1 and Case 2 had a significant relationship. Diagnosing Case1 as a disease of "systems" was related to increased likelihood of diagnosing Case 2 as "systems" (OR: 5.63, 95% CI: 1.62 ~ 21.7, p=0.0030, by Fisher's exact test). In the 5x5 Approach group, diagnoses for Case 1 and Case 2 were not related to each other (OR: 1.84, 95% CI: 0.44 ~ 7.95, p=0.36).

Conclusion

Although we could not detect the effect of 5x5 Approach on a diagnostic accuracy, we detected that each resident had a bias to diagnose difficult cases as the same category of diseases, either 5 organs or 5 systems, and 5x5 Approach enabled residents to reduce this bias.

D1125

TELEMEDICINE IN A PHARMACY SETTING IN SINGAPORE

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Background and Aims

Telemedicine remains a largely under-utilised form of connecting patients with doctors and is relatively new in Singapore. The concerns with regard to safety of prescription without physical examination remain valid for many clinical conditions.

However the ability to embrace telemedicine in Primary Care not only improves efficiency and patient convenience, but may also be able to improve compliance and access to medications and hence patient outcomes in management of medical conditions.

Methods

We have built telemedical stations in multiple Unity pharmacies where doctors and patients can communicate using such stations designed in a form of a cubicle. The telemedicine cubicle is enclosed with sliding doors, providing privacy. Consultation is conducted using video conference through a double encrypted network channel facilitated by our self-written software. A list of conditions that can or cannot be seen were provided to the pharmacist.

Conditions that do not meet the criteria were accepted on a case to case basis depending on the comfort level of the doctor. Patients are recruited when deemed to have a need to use the system by the pharmacist or trained staff.

Results

Our experience together with those of others all suggested that telemedicine improved patient convenience and comfort, and increases accessibility to medical care. Furthermore with telemedicine in a pharmacy setting, doctors and patients are able to have access to medications that are usually not well stocked in traditional General Practice Clinics such as travel medicine. Patient cost also decreases due to the access of cheaper medicine with the bulk purchasing capabilities of large pharmacy chains.

Literature review of previous experiences in telemedicine was done and included in the discussion. Problems and concerns highlighted by our doctors and pharmacists and subsequent corrective actions are also discussed.

Conclusion

Telemedicine improves patient convenience and comfort and increases accessibility to medical care. However, doctors have to be mindful of potential lapses in medical judgment and management due to the omission of the physical examination, and advise and manage patients accordingly in such as way that is safe. Telemedicine in a pharmacy setting also allow doctors and patients to have access to more medications that may not be carried in a traditional General Practice Clinic such as travel medicine.

With more experience in Telemedicine in Singapore, further evaluations can be made to help make Telemedicine improve patient convenience, compliance, access to medications, and eventually better Primary Care and health outcomes as whole for the Population.

'DOCTOR FOR AN HOUR' VALIDATION OF AN EFFECTIVE ORTHOPAEDIC LEARNING PLATFORM FOR MEDICAL STUDENTS

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Background and Aims

Undergraduate clinical education presents the challenges of providing high quality and effective teaching methods, whilst maintaining efficiency, and incorporating meaningful education for learners. Numerous teaching strategies have been described in the literature, but only a few have been evaluated for their effectiveness. 'Aunt Minnie' and 'Activated demonstration,' are two recognised teaching models which encourage critical thinking, learning through pattern recognition, learner-focused teaching and encourages non-passive learning practices.

While case-based knowledge and analytic thinking processes can easily be taught in the outpatient clinics, effective acquisition of hands-on skills involving physical examination or procedural interventions require a longer period of interaction in the presence of a tutor who is able to demonstrate, supervise and provide feedback. This "Activated demonstration" has been described as a way for a tutor to maximise the educational value by demonstration and provide the learner with more than just a passive experience.

Methods

'Doctor for an hour' is a new learning platform which we have developed over the past 2 years using a combination of the two teaching models above. This platform requires the students to play the role of the examiner, simulated patient and exam candidate over a period of an hour for each session. These are video-taped for viewing later. The preparation of the relevant clinical cases are undertaken by the students which are assessed by the tutor prior to the exercise. The role of the tutor is to ensure that the exercise objectives, standards and quality are adhered to. Most importantly, a debriefing session is conducted at the end to provide constructive feedbacks to the 'performance' of each student.

A post-exercise survey was conducted to assess the effectiveness of the exercise using both the Student Evaluation of Teaching in Medical Lectures (SETMED-L) and a modified questionnaire on the comparison between this new method and the commonly-practiced ambulatory clinic sessions.

Results

Effective and smooth running of this learning platform requires close collaboration between tutor, assistant tutors and clear pre-briefing and briefing to the students. Adequate and conducive examination rooms are required. 78.6% of the students felt this new exercise was more useful than ambulatory clinic sessions and would want to have 2 sessions per 4 week block. 82.1% felt that there were more opportunities for practical application at these sessions. 100% of the students agreed the tutor elucidates logical connections that helped them understand the clinical conditions better. 96.7% agreed that the presence and feedback by the tutor enhances students' interest in the subject matter.

Conclusion

'Doctor for an hour' has proved to be a greatly effective and validated learning platform to medical students by providing a dynamic experience of practicing their clinical skills through simulated role-play. The opportunity to assess their peers from the perspective of an examiner and as a patient allows for the development of in-depth understanding of what is expected of them in an examination setting.

SHORT COMMUNICATIONS 19

D1127 **The Development and Implementation of an Integrated Spiraled Clinical Skills Programme Across the Bond University Medical School Curriculum**
Anne Spooner, Australia

D1128 **Structured Teaching of Geriatric Medicine for Final Year Medical Students in a Student Internship Program in Singapore: Results of a 3-Year Qualitative Self-Assessment Questionnaires on the Competency Levels Before and After Undergoing the Teaching Programme**
Aditi Jalali, Singapore

D1129 **Effect of Learning Approach and Anxiety in End-of-Block Test Grade in the Medical Faculty of Universitas Swadaya Gunung Jati**
Tissa Octavira P., Indonesia

D1130 **Focusing the Content – Threshold Concept as a Strategy to Support Education and Learning in the Clinical Workplace**
Peter Henriksson, Sweden

D1131 **Flipped-Learning in Korean Medical Education: Feasibility and Effectiveness in Practice of Epidemiology Course**
Sohn Sangho, South Korea

D1132 **Understanding Mentoring Culture Through Thematic Analysis of Learning Culture in Medicine**
Tay Kuang Teck, Singapore

D1133 **Resident-Led Reflective Learning Practice as an Alternative to Mortality and Morbidity Conferences in Obstetrics and Gynaecology Residency Education**
Joella Ang, Singapore

D1127

THE DEVELOPMENT AND IMPLEMENTATION OF AN INTEGRATED SPIRALED CLINICAL SKILLS PROGRAMME ACROSS THE BOND UNIVERSITY MEDICAL SCHOOL CURRICULUM

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Background and Aims

Bond University is a five year undergraduate medical programme. Clinical skills are traditionally taught in a block in the early year/s of a medical programme. Students cover communication, history, physical examination and procedural skills training which is generally checklist based in system blocks. The separate teaching of the clinical skills programmes can result in insufficient blending of parallel academic content and student focus on checklist based assessment in formative, summative and OSCE formats encourages checklist expertise only. As a result many students in their medical school journey never graduate from rote learning skills to achieve integrated intuitive complex clinical skills that incorporate clinical reasoning and its applications to patients with multiple comorbidities and problems. The aim of this new programme implemented recently at Bond University is to improve and spiral students' clinical skills beyond checklists and from an early stage to develop and progress clinical reasoning skills and their applications. By year 5 students will acquire the ability to take a broad history, perform an appropriate often multisystem complex examination, and utilise clinical reasoning skills to choose and interpret investigations, and formulate a differential diagnosis and plan.

Methods

The programme was introduced progressively. Year 2, a strict checklist major system based programme introduced the concept of "syntheses of knowledge" as a prelude to clinical reasoning. In sessions tutors and students worked to incorporate horizontal curriculum as they practiced their systematic examinations. The inclusion of "synthesis" questions in OSCEs changed the focus from "rote" list performances to understanding and "synthesising" curriculum content. Year 3 saw the introduction of increased number of integrated history and PES sessions with spiraling to include clinical reasoning, and early formulation of a differential diagnosis and patient plan in parallel with core Bond virtual hospital curriculum. Extension into the clinical years 4 and 5 where complex rotation case based integrated history, physical examination stations, clinical reasoning/application i.e. investigations, and management planning including treatment were implemented in "back to base sessions" with their consultants was backed by assessment changes to include reasoning questions. Year 5 saw the extension of complex rotation term case based integrated history, physical examination stations and clinical reasoning/ application to include all curriculum areas in preparation for internship.

Results

Feedback from formal student end of semester and programme evaluation is extremely positive. Feedback from year 3 students includes commentary such as "the focus on clinical reasoning skills has been beneficial in understanding Medicine in general " and "These sessions are greatly received, interactive and informative. More importantly, however, they fill a gap in the clinical component of the course, that is, the way of deciphering a vignette and providing a structure for clinical reasoning"

Conclusion

The move from a checklist based clinical skills programme over 1 to 2 years to a spiraled integrated curriculum over the 5 years will help students to acquire the ability to take a broad history, perform an appropriate often multisystem complex examination, and incorporate clinical reasoning skills to choose and interpret investigations, formulate a differential diagnosis and management plan in preparation for internship.

D1128

STRUCTURED TEACHING OF GERIATRIC MEDICINE FOR FINAL YEAR MEDICAL STUDENTS IN A STUDENT INTERNSHIP PROGRAM IN SINGAPORE: RESULTS OF A 3- YEAR QUALITATIVE SELF-ASSESSMENT QUESTIONNAIRES ON THE COMPETENCY LEVELS BEFORE AND AFTER UNDERGOING THE TEACHING PROGRAMME

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Background and Aims

This study was to assess the effectiveness of a structured teaching programme in Geriatric Medicine for final year medical students, which includes case-based tutorials, bed-side teaching, embedding of the student with ward-based teams, ambulatory care, geriatric day hospital and transitional care teaching, based on structured qualitative self-assessment questionnaires in a teaching hospital in Singapore.

Methods

The study was carried out in Changi General Hospital, Singapore, a tertiary hospital with 1020 beds, partnered with Yong Loo Lin School of Medicine, NUS. It was conducted in 3 consecutive academic years of 2015-2017.

An anonymous structured qualitative self-assessment questionnaire was done at the beginning and at the end of their 3 weeks clinical attachment, based on the 8 domains of the declared target competencies to be achieved by the final year medical students at the end of their Student Internship Program in Geriatric Medicine. These 8 domains are further sub-divided into a further 27 sub-domains. The students are then asked to assess their own competency levels for each of these sub-domains based on 3 levels: Nil, Some and Competent. We then compared the "Before" and "After" groups in their self-rated scores (Nil/Some/Competent) overall and also in each of the 27 sub-domains. Null hypothesis is: "There is no difference in self-rated competencies before and after the Geriatric Medicine teaching programme". For the analysis, we used the McNemar-Bowker test via STATA version 14. The 8 domains assessed are as follows:

1. State how Frail, Older Patients differ from the Non-frail Middle-aged Patients

2. Describe the process of "Comprehensive Geriatric Assessment"

3. Perform a "Comprehensive Geriatric Assessment"

4. Describe the principles involved in the management of frail older patients

5. How to approach geriatric syndromes

6. Describe the network of community services for older persons in Singapore

7. Able to identify potential hazards of hospitalisation, why they happen and strategies to avoid them

8. Appreciate importance of health promotion, successful aging and screening

Results

We had 130 complete questionnaire forms for both "before" and "after". A total of 24 Clinical Groups of final year medical students was surveyed. Statistically significant improvement was seen in all 8 domains for the 3 academic years. Calculated p-values were < 0.001 for change from the baseline for each individual sub-domain.

Conclusion

The 3 weeks structured teaching programme in Geriatric Medicine, in the form of a Student Internship Program, led to measurable improvement in the self-assessed competency levels in final year medical students in all domains for 3 consecutive academic years. The processed data can be used to further develop the teaching curriculum, methods and faculty.

EFFECT OF LEARNING APPROACH AND ANXIETY IN END-OF-BLOCK TEST GRADE IN THE MEDICAL FACULTY OF UNIVERSITAS SWADAYA GUNUNG JATI

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Background and Aims

Recent development in Indonesian medical education based on the Indonesian Medical Competency Standard (Standar Kompetensi Dokter Indonesia) uses block system. Block system is designed to integrate learning process and focusing on the targeted competency. To measure learning achievement, a valid and reliable assessment must in place, such as end-of-block test (EBT) using multiple choice questions (MCQs) which has already been proven reliable to measure competency achievement objectively. There are several factors that may influence a medical student's learning achievement, such as learning approach and anxiety. The learning approach itself however, may contribute to anxiety and anxiety may obstruct with cognitive function and affect performance during the test and influence the test score.

This research aims to analyse the effect of learning approach and anxiety with the end-of-block test grade in medical students at the medical faculty of Universitas Swadaya Gunung Jati Cirebon.

Methods

This was an observational study with cross-sectional design with 221 medical undergraduates at the medical faculty of Universitas Swadaya Gunung Jati who attended end-of-block test. Anxiety was measured using Zung Self-rating Anxiety Scale (ZSAS) and learning approach was measured using Bigg's questionnaire. Spearman's correlation was used to analyse the data.

Results

There was a moderate positive correlation between learning approach and EBT grade ($r = 0.557$) and strong positive correlation between anxiety and EBT grade ($r = 0.785$), with $p = 0.000$ ($p < 0.05$).

Conclusion

There is a significant effect between learning approach and anxiety with end-of-block test grade.

FOCUSING THE CONTENT - THRESHOLD CONCEPT AS A STRATEGY TO SUPPORT EDUCATION AND LEARNING IN THE CLINICAL WORKPLACE

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Background and Aims

Research hitherto have shown that passing from preclinical courses to work-based learning is troublesome. Workplace learning is a prerequisite in healthcare professionals' education. It gives opportunities to apply capabilities and approaches learnt in the classroom, and concurrently acquire contextual clinical knowledge, skills and adapt a professional behaviour. Further, students perceive that the quality of work-based learning varies too much.

Studies on educational quality indicate a substantial influence of skilled supervisors, who guide students in clinical activities in coherence with learning outcomes. An impediment to shape prerequisites for high quality health care supervision is lack of a shared structure and terminology for learning dialogues meaningful to supervisors and students.

In research concerning students' ways of thinking and practising (WTP) the idea of threshold concepts (TC) was developed. Defined TCs have been proposed as a tool to create an effective education and learning structure. As a concept TCs are shown to be applicable to describe the difficulties that students have in their development of understanding of central but difficult content. TCs could be transformative, integrative, troublesome. However, when understood they are irreversible and enables moving to a higher taxonomic level of understanding. Research concerning TCs has had a huge impact in some disciplines. However, their use is very limited in healthcare disciplines.

The aim of this study is to define: 1) Which troublesome and transformative learning content is crucial to professional practice (threshold concept) as identified by teachers and supervisors within medical and speech and language pathology education? 2) How are these threshold concepts troublesome when students develop a deeper understanding, and recognise and transfer it to clinical practice?

Methods

Phase one: Data are acquired through a modified Delphi and performed in two steps. Step 1: Based on earlier research and discussions a questionnaire was constructed. Respondents were asked: (a) Which learning content is crucial to clinical practice. (b) Which of this content is experienced as troublesome: to develop a deeper understanding of during preclinical studies; to recognise; to transfer and apply during work-based learning.

Phase two: We define a number of key TCs and develop a questionnaire with predefined options on a five-graded scale. Those are distributed to teachers and supervisors. Respondents (n=500) are asked to grade (a) importance of the TC, (b) how troublesome it is to develop a deeper understanding of it during preclinical studies, (c) how difficult it is to recognise/ apply during workplace learning. The results will be analysed and categorised according to clinical importance and complexity. Phase three: Focus group interviews with teachers and supervisors and specially designed written and practical examinations that challenge students understanding of TCs followed by in-depth interviews. Phenomenographic analysis will be performed.

Results

Data from step one is collected and the full results from phase one will be presented at the conference.

Conclusion

The results of the complete project will result in an instrument aimed to support students' learning and supervisors' education. This instrument gives students and supervisors a visible structure to be used in the dialogue of students' achievements of crucial learning content.

D1131

FLIPPED-LEARNING IN KOREAN MEDICAL EDUCATION: FEASIBILITY AND EFFECTIVENESS IN PRACTICE OF EPIDEMIOLOGY COURSE

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Background and Aims

The authors aimed to; (1) develop an epidemiology course applying the flipped-learning methods; (2) to explore its feasibility and effectiveness in Korean medical education environment.

Methods

In fall semester, 2017, the authors in Korea University College of Medicine flipped the Practice of Epidemiology course for first-year medical students to evaluate feasibility and effectiveness. Online lectures and assigned readings were provided as pre-class materials, and group discussions as well as interactive communications among students and tutors substituted for traditional on-stage lecture. Qualitative achievements were measured through self-written pre- and post-course surveys. Pre-test results and final exam score were analysed for quantitative outcome comparison.

Results

Ninety-seven students out of 120 accomplished the entire course and submitted valid surveys. Majority of students made use of online lectures, but not reading materials. Lack of time was most frequent reason for under preparedness. Improvements in preparedness, participation, and effectiveness was observed after finishing the course while change in satisfaction was inconclusive. Students' perception on course consistency and difficulty were predictive of outcomes but effects of preparedness and length of materials were inconclusive. No evidence was found to support differing test scores before and after the course.

Conclusion

Flipped-learning method seems to be promising in teaching and learning in epidemiology considering Korean medical education environment. Measures to integrate the course to connect the qualitative improvement into better quantitative achievement should be taken.

UNDERSTANDING MENTORING CULTURE THROUGH THEMATIC ANALYSIS OF LEARNING CULTURE IN MEDICINE

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Background and Aims

Successful mentoring enhances personal and professional development of mentees and mentors and boost the standing of host organszations. Underpinning this success is effective matching, nurturing holistic mentoring relationships and developing personalised Mentoring Environments that accounts for the prevailing Mentoring Culture (MC) and Mentoring Structure.

To address a dearth of information on MCs we turn to prevailing reports on Learning Cultures (LCs) which have been shown to be akin to the MC. It is hoped that the lessons learnt will enhance understanding of MCs and guide design of effective mentoring programmes.

Methods

Using common inclusion and exclusion criteria, 4 authors performed independent literature reviews of LCs in clinical medicine published between 1st January 2000 to July 2018 using PubMed, ERIC, Embase, Cochrane Database of Systematic Reviews, Google Scholar and Scopus databases. Braun and Clarke's (2006) thematic analysis approach was adopted to circumnavigate LC's evolving, context-specific, goal-sensitive, learner-, tutor-, relationally- and host organisation-dependent nature that makes comparison of LC across different settings difficult.

Results

13,742 abstracts were identified, 80 full-text articles reviewed, and 40 full-text articles were thematically analysed. Five themes were identified: (1) Learner (2) Tutor (3) Host Organization (4) Learning Relationship (5) Curriculum.

Conclusion

The psychosocial and emotional environment of an LC facilitates effective mentoring. LCs are a combination of individual LCs and the programme LC. Individual LCs reflect the values, beliefs, practices and attitudes of tutors, learners, the host institution and relationships between tutors, learners, the host institution within the curriculum. The programme LC is created by the host organisation and its curriculum. The individual LCs exist within the larger programme LC and both aspects are influenced by the learning structure, approach and the context in which it takes place.

Extrapolating the concepts of individual and programme LCs to the mentoring context underscores the notion of individual mentoring culture and the larger program mentoring culture. Individual mentoring culture underlines the need for personalised support and oversight of tutors and learners by the host institution whilst the programme mentoring culture emphasises the need for a flexible and nurturing culture that will facilitate the development of individual mentoring culture and latterly - mentoring relationships.

With the mentoring environment being the function of mentoring culture and mentoring structure understanding mentoring culture's evolving and flexible nature reiterates the need for programme designers and administrators to create an effective mentoring structure that can balance the individual needs of the mentee-mentor-host organisation relationship whilst ensuring there is consistency and oversight of the activities and interactions within mentoring programmes.

RESIDENT-LED REFLECTIVE LEARNING PRACTICE AS AN ALTERNATIVE TO MORTALITY AND MORBIDITY CONFERENCES IN OBSTETRICS AND GYNAECOLOGY RESIDENCY EDUCATION

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Background and Aims

Mortality and Morbidity Conferences (MMC) have traditionally been the forum to explore management issues of cases where mortality or morbidity has occurred. Postgraduate medical education in Singapore has transitioned into the Residency programme accredited by the Accreditation Council for Graduate Medical Education - I (ACGME-I) and is purported to be holistic and structured. There is emphasis on core competencies such as Patient Care, Medical Knowledge, Practice Based Learning and Improvement, Systems Based Practice. This paper explores a structured, resident-led Reflective Learning Practice (RLP) as an alternative to MMC.

Methods

RLP was introduced in March 2016 using real case studies shared by colleagues. Cases are limited to 3 per one-hour session every quarter. Cases are presented by junior doctors like Medical Officer/Resident and are structured as such - History, Examination, Investigations, Management, Learning Points and Literature Review. Discussions are moderated by faculty members and residents are asked to discuss diagnostic and management issues faced. The sessions are conducted in an anonymous, non-judgmental and non-hostile environment with emphasis on learning and improvement whilst facilitated by faculty members. Attendees vote for the best speaker based on development of learning points and surrounding literature review. A survey was conducted after the sessions.

The discussion in RLP is targeted at the junior level and the focus is on effective learning and improvement whereas in MMC, the discussion level is targeted at the senior level with emphasis on peer review of mistakes during the care of patients. Junior doctor learning is encouraged via active participation in discussion and in preparation of the presentation and literature review.

Results

A total of 146 participants were surveyed in 6 sessions of RLP over the period of 18 months. The majority of participants were House Officers and Medical Officers/Residents (n=93, 63.7%) while 15.1% were Registrars/Senior Residents and 6.8% were Consultants. The majority of participants felt that RLP was interesting and educational (91.9% and 91.8% respectively). In addition, the majority of participants felt that it would make them a better doctor in the future and would both attend the next session and recommend their colleagues to attend (90.4%, 87.0% and 86.3% respectively). Overall, 73.3% of participants felt that the learning value of RLP is higher than that of MMC - with 60% of Consultants and 67.6% of House Officers agreeing with the statement. Overall, the Medical Officer/Resident group appear to have benefitted the most from the sessions as they showed the most positive response from the survey.

Conclusion

A structured, resident-led RLP is a good alternative to traditional MMC with emphasis on core competencies training of ACGME-I. A bottom up approach allows for residents to tailor discussions to their own learning needs and promote education "for residents, by residents" in a non-blame environment with a focus on effective learning. While MMC may have superior learning value in engaging more senior doctors during discussion of complex management cases and individual competence, RLP can be used to complement traditional MMC and enhance learning due to its depth of discussion and emphasis on improvement and continued learning.

SHORT COMMUNICATIONS 20

D1134   **Ambiguity: What's Your Tolerance?**
Michelle Lazarus, Australia

D1135   **Different Teaching Activities in the Integrated Curriculum of Clinical Communications Skills: 5-Year Experience**
Ping-Keung Yip, Taiwan

D1136   **Preparing Liberal Arts and Sciences Students from Yale-NUS College for Entry to Medical School**
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D1137   **Study of Rumination Thoughts in Medical Students**
Duddy Fachrudin, Indonesia

D1138   **Factors Affecting the Medical Board Performance of Students: A Matched Case-Control Study**
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Ali Mustafa, Saudi Arabia

D1140   **Dynamics of the Interprofessional Team: Can Education Address the Current Issues?**
Sherman Tan, Singapore

D1134

AMBIGUITY: WHAT'S YOUR TOLERANCE?

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Background and Aims

Within authentic clinical experiences, ambiguities exist along the patient care spectrum from differences in presentations to variability in patient outcomes following treatment. Although uncertainty and ambiguities are inherent aspects of medical practice, the impact of doctors' tolerance of ambiguity (ToA) is poorly explored and the ToA construct is ill-defined. There is some evidence that doctors with low ToA may have increased levels of burnout, anxiety, and depression. Low ToA doctors may also avoid complex patients or overtest these patients (leading to increase healthcare costs) in an effort to minimise ambiguities. Despite the potential significance of ToA within the healthcare context, measuring tolerance of ambiguity (ToA) remains elusive. The aim of this study was to develop a validated ToA inventory to help define the complex ToA construct. Ultimately, this tool will be used to help individuals recognise and develop their own ToA as well as improve curricula to incorporate ToA concepts within embedded pedagogy.

Methods

First and second year medical students at Monash University electively participated in validity testing of existing and novel (author developed) healthcare-related ToA scale items. Confirmatory factor analysis (CFA) was performed to verify the unidimensionality of previously published ToA scales and these data were compared and contrasted to findings from an exploratory factor analysis (EFA) conducted on the revised ToA scale. The revised scale was optimised by aligning items with contexts identified as impacting ToA based on a rapid review of the literature.

Results

Analysis (CFA) of existing scales suggested non-conformity to previously proposed unidimensional models with < 29% of items demonstrating strong loadings on a single factor for one scale. EFA of the revised ToA scale suggests four core themes: Emotional Valence (items linking ToA to anxiety in the healthcare contexts), Perceived outcomes (items linking ToA and favourable/unfavourable outcomes), Patient consciousness (items linking patients ToA to the doctors' ToA), and uncertainty in patient treatment; each theme aligned with a context identified in the ToA literature review. These results suggest that previous scales are not uni-dimensional and are likely evaluating participants' perception of their role within a given item. This study also suggests that ToA responses may be affected by language (i.e., "unfamiliar" vs. "novel") and context (i.e., low-risk vs. high-risk patients) and that ToA is a multi-faceted construct. Together, this work contradicts the notion that ToA is strictly dogmatic and may, in fact, be amendable to context and/or experiences.

Conclusion

Given the contextual nature of ToA observed in this study, there appears to be a potential for affecting healthcare students' levels of tolerating ambiguity. This is of particular interest and importance given that ToA is pervasive in healthcare environments. Efforts to develop curricula, supporting content learning and simultaneously fostering ToA are in progress and this scale will allow the medical education community to identify the impacts of these efforts. This scale may also be used to help us evaluate the preparedness of our learners for the complexities and uncertainties of clinical environments.

D1135

DIFFERENT TEACHING ACTIVITIES IN THE INTEGRATED CURRICULUM OF CLINICAL COMMUNICATIONS SKILLS: 5-YEAR EXPERIENCE

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Background and Aims

Different teaching activities are designed to supplement instructional and didactic class in the curriculum of clinical communication skills course. Experiential and role play activities are most commonly employed in such courses for medical students. The experiences of different activities will be helpful for other institutions to design such curriculum.

Methods

The experiences of single institution by the same teaching group in the past 8 years are reviewed. Because some of them are relative constantly included in the recent years, the teaching activities and results of the last 5 years (2013-2017, an average of 50 second year medical students in each year) are analysed. Among them, 6 activities are investigated by using the end-of-term feedback data, i..e, (1) 3-4 stations Objective Structure Clinical Evaluation (OSCE) for final examination; (2) Teachers as standardised patients (SP) for patient education and informed consent; (3) Clinical pastoral education (CPE) with real patients encounter; (4) Team-based learning (TBL) for handling compliant; (5) interactive response system (IRS) for telling bad news, and (6) SP as teachers for breaking the ice technique were compared by a 5-point Likert scale.

Results

The overall course satisfaction is 4.3 and the course is helpful for clinical communication in the post-graduate career is 4.5. Among the 6 different activities, the order of satisfaction are (1) OSCE= 4.5 ; (2) Teachers as SP=4.3; (3) SP as teachers=4.2; (4) CPE=4.0; (5) IRS=3.9; and (6) TBL=3.8.

Conclusion

Our curriculum feedback for course design of clinical communication skills is among good to excellent and well-accepted by the junior medical students in the 2nd year of a 6-7 year course. Most of the teaching activities are well accepted and regarded useful for teaching in the course. Among them, the different design of activities and different roles of SP are the leading choices of our students (ranked the first 3 among 6 activities). CPE is also a highly appreciated activity.

A combination of activities using SP and CPE are recommended course in communication skills teaching.

D1136

PREPARING LIBERAL ARTS AND SCIENCES STUDENTS FROM YALE-NUS COLLEGE FOR ENTRY TO MEDICAL SCHOOL

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Background and Aims

Yale-NUS College is the first liberal arts and sciences college in Singapore, founded in 2012. Students graduate with a BA (Hons) or BSc (Hons) after 4 years. There is no "pre-med" track or major for students interested in pursuing medicine; instead all students enrol in a common curriculum which deliberately delays early specialisation in favour of building a broad knowledge base. This rigorous academic training in the humanities, social sciences and sciences prepares our students well for success in the MCAT. This academic training is supplemented with additional experiential programmes to prepare students for success in their applications into medical school worldwide.

Methods

This report will share our experiences with several innovative academic and experiential resources for our students that have allowed them to prepare successfully for their medical school applications. For example, in 2018, we have launched a special pathway for liberal arts students interested in pursuing medicine, in partnership with Duke-NUS Medical School. Some of the experiential support we provide our students include individualised coaching by one staff and faculty member each, funded research opportunities with faculty in their labs during the summer breaks and funded internships in healthcare organisations around the world.

Results

Our student population is approximately 60% Singaporean and the remaining are international students from 50+ nationalities. This tremendously diverse student body has produced six MD candidates pursuing medicine in Singapore (Duke-NUS Medical School) and the United States from a total cohort of 269 students graduating in 2017 and 2018.

Conclusion

The programme is still in its infancy and we cannot estimate if the unique academic training at Yale-NUS is leading to our success with producing globally competitive MD students, or if it is the targeted experiential opportunities, or some combination of both! So far, our experiences are limited to supporting students pursuing medicine in 2 developed countries: Singapore and the US, but we expect applications to other medical schools across the globe, given the diversity of our student population. Also, the pathway with Duke-NUS Medical School has been launched this year so we do not yet have data on its success.

D1137

STUDY OF RUMINATION THOUGHTS IN MEDICAL STUDENTS

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Background and Aims

Medical students are at increased risk of a number of psychological problems. Stress due to high learning load and various pressure from internal and external factors are condition that is often encountered. A low academic achievement worsening the mental condition of the individuals. Second-year of medical education is crucial phase for medical students. If they have Grade Point Average (GPA) above 2.0, they can proceed to the next block, but if they fail, they must be remediated first. Rumination thought is a negative thought, repetitive, and focuses on the problems, arises when students fail their exam. The aim of this study is to explore and describe rumination thoughts that occurred in second-year medical students. This study is a preliminary research to determine psychological intervention used to overcome the problem.

Methods

Participants were selected four out of 17 second-year medical students who had a GPA below or equal to 2.00. Case study with data collection through in-depth interviews was used. Data were analysed qualitatively by manual coding so that the research team obtained the themes of rumination thoughts and the factors that contributed to it.

Results

The results showed similarity pattern of rumination thought that is self-judgement negatively. This includes feeling unworthy, incapable, and useless. Participants feel worry and anxious for not being a doctor. A participant even thought of suicide. The cause of rumination thoughts is not only low GPA, but also others factor, such as parenting style and personality traits of participants.

Conclusion

In conclusion, rumination thoughts inhibit the study of medical students. It deals with anxious and self-critique. Further discussion of the need for intervention such as self-compassion or mindfulness programme to cope or prevent this psychological problems.

D1138

FACTORS AFFECTING THE MEDICAL BOARD PERFORMANCE OF STUDENTS: A MATCHED CASE-CONTROL STUDY

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Background and Aims

The growing demand for competent, skilled physicians can be addressed by an increase in the number of medical school graduates successfully passing the Physician Licensure Examination (PLE). Over the past 5 years the average national passing percentage is only about 82% and 2 out of 10 medical graduates are not licensed to practice the profession. Whereas the goal of every medical school is a 100% passing rate in the PLE, the college would like to determine the factors that contribute to the failure rate in order to institute proactive measures. To increase the level of evidence on this topic, a matched case-control study design was implemented.

Methods

The applicants and student's databases were accessed and analysed by authorised faculty members in pursuit of this study. The data was anonymised and ethical considerations were upheld following the institutional ERB guidelines. From the pool of unsuccessful examinees (cases) in the past five national medical board exams, at least two controls were matched by the academic rank attained on completion of the four year course. This is expressed as the general weighted average (GWA).

Results

Results revealed that the composition of the subjects (N=130) are mostly females in the mid-20's age group. All are baccalaureate degree holders prior to Medicine, with a mean entering National Medical Admission Test (NMAT) score of 75. The mean GWA of the cases and controls are similar. Pearson correlation revealed that the (1) GWA and the PLE rating, likewise, (2) NMAT score and PLE rating, have a weakly positive correlation, $r^2=0.07$ and $r^2=0.04$, respectively. These imply that passing the exam is attributable to GWA and NMAT score by a small percentage only, based on this matched sample. Furthermore, the computed odds ratio of having a graduating GWA of 2.8 (or worse) and an NMAT score in the 70's (or worse) as credential for admission to the college of medicine are factors that increases the risk of a bad outcome in the medical licensure exam, however, statistical significance was not established. As to the number of failed subjects in the medical course, this did not present as a factor contributing to board performance.

Conclusion

In conclusion, further studies must be conducted to determine the other factors that will show a stronger correlation with medical board performance. Furthermore, the strength by which these factors affect the board rating should also be quantified by analytic study designs so that more strategic and targeted remedial interventions may be formulated and implemented by the medical schools to assist their graduates in being able to practice the profession and generate good health outcomes.

D1139

RECALL OF PHARMACOLOGY KNOWLEDGE BY GRADUATES OF SOME MEDICAL SCHOOLS IN SAUDI ARABIA

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Background and Aims

Introduction: Pharmacology is considered as one of the important branches of medicine, as it has high impact of patient's safety. Hence, Medical Schools lay more emphasis on the quality of teaching pharmacology.

Aim: 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 171 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 171 participants recruited for this study 132 representing (77.2%) were males and 39 (28.7%) were females. One hundred and thirty-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, 92 of the participants were enrolled in clinical rotations. Fourty eight of participants were preparing for SLE, USMLE, or MCCEE examinations. The MCQs in the study questionnaire were marked out of ten. Only 41 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 ± 1.74, whereas that of the male gender was 4.23 ± 1.97 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 ± 2.06, whereas that of those not preparing was 4.32 ± 1.91; 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 subject 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 post-graduate examinations.

D1140

DYNAMICS OF THE INTERPROFESSIONAL TEAM: CAN EDUCATION ADDRESS THE CURRENT ISSUES?

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Background and Aims

Due to the complexity of the current healthcare system, there is a heightened awareness of the importance of well-structured interprofessional (IP) teams working collaboratively to improve patient care outcomes. It is imperative to explore the dynamics of IP teams and issues that inhibit the optimal formation of such teams.

The aims of this project are to identify issues within IP teams, to explore strategies that can address them and how healthcare professionals can incorporate such strategies into their profession.

Methods

A literature review using a systematic search was conducted via PubMed and ScienceDirect databases. Keywords such as 'interprofessional issues and possibilities', 'communication in healthcare setting' and 'interprofessional education and improvements' were used to guide the research. The literature was filtered down to address specific areas that were common across the articles received.

Results

Core issues such as working culture and differing role identities are preventing the successful formation and development of IP teams. One of the key strategies in enhancing IP team dynamics is through the implementation of effective interprofessional education (IPE).

Programmes such as simulated learning & inter-disciplinary practical placement can create a solid foundation in integrating IP expertise.

Conclusion

By implementing effective IPE strategies within education programmes and current IP teams, we can catalyse a positive change towards the culture and attitude surrounding current IP practices in the healthcare sector. However, more long-term studies are needed to ascertain the benefits of IPE.

SHORT COMMUNICATIONS 21

D1141   **The Journey of Knowledge for the Multidisciplinary Team with Kahoot Programme**
Rujapa Pechjaroen, Thailand

D1142   **A Study on how Sri Lankan Medical Students and Junior Doctors Deal with Cultural Issues in Doctor Patient Communication**
Kaumudee Kodikara, Sri Lanka

D1143   **Measuring Graduate Competencies & Creation of Personalised Competency Maps**
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D1141

THE JOURNEY OF KNOWLEDGE FOR THE MULTIDISCIPLINARY TEAM WITH KAHOOT PROGRAMME

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Background and Aims

Somdejphrajaotaksinmaharaj Hospital Medical Education Centre (TSM MEC) developed a project of instructor role for the multidisciplinary team e.g. medical instructors, nursing instructors, academic and other support staffs. This is to promote teaching role by building experience about physician for the medical students.

Methods

The instructor built the presentation with Kahoot programme to replace the old tool (PowerPoint). This programme is being built by the instructor by integrating the content into the learning game. It was being used to give the knowledge about the history of TSM MEC, mission and teacher's role to the multidisciplinary team instead of traditional lecture (PowerPoint) by the instructor. After, the multidisciplinary team was taught by this programme, they answered a satisfaction survey about knowledge and the tool used by using a Likert Scale on 5 levels.

Results

The total number of participants is 24, which comprised of 2 physicians, 10 nurses and 11 academic and other support staffs. The age of the multidisciplinary teams varies from <30 years to >60 years but the majority group of the participants is 50 - 60 years old. The work experience with TSM MEC varies from < 1 year to > 10 years. There are 8 people (34.8%) at level 2 and level 3 of knowledge before the learning process. This has increased to 16 people (69.6%) for level 4 and 6 people (26.1%) for level 5 of the knowledge after the learning process. There are 11 people (47.8%) for level 4 and 12 people (52.2%) for level 5 of the satisfaction in the learning process with Kahoot programme.

Conclusion

Discussion: The learning game from Kahoot programme is fun and promote the knowledge for the multidisciplinary team which comes from different age and basic knowledge.

Conclusion: The instructor is successful in building and using Kahoot programme to transfer a narrative or flow of knowledge about the history of TSM MEC, mission and teacher's role into the learning game, as the journey of knowledge to the multidisciplinary team.

Take-home message: The development of teaching method is the important issue for the 21st century instructor.

A STUDY ON HOW SRI LANKAN MEDICAL STUDENTS AND JUNIOR DOCTORS DEAL WITH CULTURAL ISSUES IN DOCTOR PATIENT COMMUNICATION

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Background and Aims

Cultural beliefs and practices impact heavily on health seeking behaviour of the public, their compliance with treatment and the ultimate health outcome. Doctors' ability to deal with cultural issues, therefore, is an essential competence. Ideally, they are expected to enquire such issues in depth and provide meaningful and convincing advices.

The objective of the study was to develop a valid and reliable measure of cultural competence in Sri Lankan undergraduate context.

Methods

41 cultural issue faced by Sri Lankan doctors were identified in a previous study by analysing the interviews with 30 medical practitioners in Sri Lanka. A response framework was developed using Intercultural Competence Theory 2. Accordingly, the respondents were advised to rate the extent of enquiry and level of advocacy for each of the 41 issues and to select a reason behind their responses. The study was conducted in four leading hospitals in Sri Lanka and the response were analysed using inferential statistics.

Results

176 junior doctors responded to the questionnaire; 53% were females, 84% were Buddhists, all respondents were graduated from Sri Lankan medical schools and 40% from the same medical school. The internal consistency of the questionnaire determined by responses to enquiry scale and advocacy scale were 0.97 and 0.92 respectively.

The mean enquiry score was 2.6, which inclined towards low enquiry. The mean advocacy score was 3.3, which inclined slightly towards high advocacy. Females demonstrated significantly higher mean scores than males for both enquiry and advocacy. The correlation between enquiry and advocacy scores were weakly positive (Pearson = 0.36, p = 0.000). Main reasons for enquiry and advocacy practices on cultural issues were 'how others practise' and 'ones own attitude on culture' and formal curriculum was rated very low as learning source of cultural competence. A primary component analysis yielded three stable components. Based on the beliefs clustered under each component they were termed as: beliefs of cautiousness (contributed to nine items in the final tool), e.g. A pregnant mother is not allowed to eat prawns because prawns are too 'heaty' for her body; beliefs of alternatives (contributed to three items in the final tool), e.g. A patient has sought help of sastharakaraya (a soothsayer) for his incurable cancer; and beliefs of contradiction (contributed to 10 items in the final tool), e.g. A female fortune teller with haemoglobin at 4mg/dl refuses blood transfusion with her belief on favourable astrology. Accordingly, the final tool comprised 22 items in total.

Conclusion

The questionnaire used to assess cultural competence appeared to be valid and reliable. Common cultural issues depicted three domains and Sri Lankan doctors appeared to adopt a relatively low enquiry and somewhat advocacy approach in dealing with them, i.e. under-competent in dealing with cultural issues. Their extent of enquiry appeared to determine the level of advocacy. Their way of responding was primarily 'caught' than 'taught'. Based on the findings, a 22-item measure of cultural competence, 'Kelaniya Measure of Cultural Competence' (KMCC), was developed.

MEASURING GRADUATE COMPETENCIES & CREATION OF PERSONALISED COMPETENCY MAPS

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Background and Aims

Quality Assurance (QA) in education focuses on attaining minimum acceptable level of competencies and compliance with existing regulations. We need to focus on quality for the purpose of accreditation, perception (ranking) and also to ensure that our medical graduates meet the standards expected by the society. As educators, we need to ensure that we improve the outcomes by identifying, imbibing and implementing best practices & innovations, for quality enhancement. The most important pre-requisite for quality purposes is measurement of baseline outcomes, especially when the effect of changes like curricular innovations has to be studied.

We have attempted to study the graduate competencies of our outgoing medical graduates with an aim to enhance curricular efforts.

Methods

In our institute, we have attempted to measure Practice readiness' of graduates through self-assessment of essential skills as defined by WFME. This is in addition to the continuous workplace based assessment of professional skills. An 'EXIT OSCE' exam has been introduced this year to assess focus practical procedures, communications skills & professional practice. In addition, a computerised 'patient management problems' based test has been added to assess the medical knowledge & clinical reasoning process of the outgoing graduates. The self assessment scores are compared with the observed scores in the OSCE exams.

The outcomes of self-assessment are compared to the observed scores across competencies. Also, a personalised 'competency radar map' is created for each student, comparing him/her across the expected levels of performance and average class performance.

Results

The 'Personalised Competency Map' helps in the process of reflection & introspection for future learning by the graduates. For the faculty, the results help in identifying key areas which need re-enforcement in the curriculum. The administrators now have a baseline score to compare the impact of newer educational interventions in the form of 'Competency Based Curriculum'. The process of comparing self assessed competence versus observed competence points to Dunning-Kruger effect.

Conclusion

We sincerely believe that this process of assessment and feedback could lead to continuous curriculum improvement & constructive alignment between curriculum, teaching & learning. It also fosters self assessment and reflection by students by promoting self directed learning behaviour.

D1144

EFFECTIVE WAY ON IMPROVEMENT OF ASSESSMENT ITEMS IN CUHK

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Background and Aims

Quality assessment items are essential for high stakes professional examinations in medicine. The skills of constructing quality items that measure higher cognitive abilities is vital for both non-clinical and clinical teaching staff in medical faculty. Lack of experience on writing quality items is common, especially among junior teachers. Assistance to non-experienced teaching staff on writing quality items are in highly demand in Faculty of Medicine, The Chinese University of Hong Kong (CUHK).

Methods

Training workshops on item writing and item analysis are organised annually in faculty for practicing clinician and academic teachers for improvement of assessment items. CUHK. Experienced item writing professor and expert on item analysis for quality control facilitate the workshops. Important guidelines of good item writing and test blueprint are explained by workshop facilitators. Questions with good and/or poor performance in summative assessment are discussed. A centralised staff training is more effective in Faculty of Medicine, CUHK. Office of Medical Education (OME) is such a central resource where a variety of teaching and staff development activities are being conducted in Faculty.

Results

From year 2010 to Year 2017, more than 12 workshops on quality item writing and item analysis have been organised for teaching staff within faculty. More than 100 faculty staff, including clinical clinicians, medical sciences teachers, honorary staff, educational administrators from various departments, Pharmacy, Nursing, Biomedical Sciences, etc. have attended the professional training on improvement of assessment items. Number of flawed items dropped significantly in summative assessment.

Conclusion

Training on item writing and item analysis in a small group of teaching staff, especially within same specialty, is an effective way to writing quality items and eliminate flawed items for high stakes professional examinations in CUHK. A continuously training is most welcome by teaching staff in Faculty. Training the trainer on developing quality items is practical in faculty to ensure quality assessment.

D1145

A NOVEL APPLICATION OF AUGMENTED REALITY (AR) FOR GAMIFIED HEALTH EDUCATION TO FACILITATE EARLY DETECTION OF GLAUCOMA, THE "SILENT THIEF OF SIGHT"

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Background and Aims

Visual impairment (VI) is a major problem affecting over 230 million individuals across Asia Pacific causing blindness in an estimated 20 million across Asia. Locally, one-fifth of Singaporeans between 40-80 years of age suffer from VI, whereby Glaucoma is a common cause. Local reports suggest that lack of awareness is a major contributing factor as eye diseases are sometimes detected late after the onset of irreversible VI. We describe a novel and engaging method for health education using Augmented Reality (AR) with an aim to raise awareness about the impact of Glaucoma on vision and the importance of eye screening, and facilitate early detection of Glaucoma.

Methods

Individuals often misattribute symptoms of eye diseases to Ageing, or may not be aware of VI at early stages. Sub-optimal early detection is evidenced by high rates of undiagnosed eye diseases reported in local community-based eye screenings. An augmented reality (AR) application is developed to provide visual context over Glaucoma and teach patients about the disease. Educational messages are embedded in a game to provide a form of information delivery that surpasses traditional media in terms of engagement and retention. This is a pilot observational cohort study of patient volunteers that completed conventional counselling and eye screening. Participants utilised immersive software for population eye health education and interviews to assess their retention of key information and acceptance of these solutions. Before-after interview responses were interpreted on a 5-point latent construct to assess change in understanding of key messages.

Results

20 patients were recruited with a mean age of 33.2 + 15.9 (range 17-68). After utilisation of these solutions, improvement in patient understanding was statistically significant for pathophysiology of glaucoma (Q1, $p=0.004$), effects of glaucoma (Q2, $p=0.001$), purpose of eye screening ($p=0.001$), recommended frequency of eye screening (Q4, $p=0.023$) and impact of peripheral vision loss (Q5, $p=0.012$) using the Wilcoxon signed-rank test. Most patients (86.7%, n=13/15) indicated they are willing to use VR and/or AR to better understand eye diseases.

Conclusion

This study found that immersive solutions may effectively facilitate greater awareness about glaucoma and eye screening to facilitate early detection of eye diseases.

D1146

TO ASSESS THE EFFECTIVENESS OF A 6 MONTHS' STRUCTURED CARDIAC PACING TRAINING PROGRAMME

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Background and Aims

Background : Traditionally, clinical physiologists received their cardiac pacing knowledge and skills through ad-hoc training provided by medical device companies and on-job training taught by their seniors. The training was usually impromptu and clinical physiologists gave feedback that they were unsure of their knowledge and skills in cardiac pacing.

Objective: A 6 months structured cardiac pacing training programme was developed in house to better equip clinical physiologists in cardiac pacing knowledge and skills. This study aims to assess the effectiveness of the training programme conducted for clinical physiologists.

Methods

22 Clinical physiologists were enrolled into the cardiac pacing training programme with 50% having a median of 4 (IQR 3 to 5) years of cardiac pacing experience and the rest were without experience. Training consists of 9 lectures, 5 discussion and case studies , 1 hands-on session over 6 months' period. The training was conducted by cardiologists, medical device companies' representatives and senior clinical physiologists. A pre and post test of 12 multiple choice questions was used to assess the knowledge of clinical physiologist. They were also given a questionnaire to self-assess their knowledge, practical skills and confidence level pre and post training using a 5-point Likert scale. Data were analysed using Wilcoxon Signed Rank test.

Results

All 22 participants responded to the pre and post test and to the questionnaire. Post test score with median 75.0% was significantly improved from Pre-test score median 58.3% (p < 0.001).

From the questionnaire, the participants assessed that the most significant improvement was in their knowledge from pre training 27.3% to post training 68.2% (p=0.017), this includes basic and advanced theory knowledge in cardiac pacing.

In terms of practical skills, the participants assessed that their ability to recognise pacing electrocardiogram (ECG) and electrogram (EGM) have improved significantly from pre training 15.9% to post training 54.6% (p = 0.009), but skills in performing pacemaker checks and troubleshooting have improved less significantly from pre training 25% to post training 45.5% (p = 0.56).

As for their confidence level, the participants assessed their confidence level have improved significantly in analysing pacing electrocardiogram (ECG) and electrogram (EGM) from pre-training 9.1% to post-training 50% (p=0.04), but confidence in performing pacemaker checks and troubleshooting have improved less significantly from pre training 17.9% to post training 38.6% (p=0.09)

From the free text response, 6 participants also commented that they would prefer more hands-on, discussion and case studies sessions

Conclusion

The result of this study shows that a 6 months structured cardiac pacing training programme has proven to be effective in improving clinical physiologists' knowledge in cardiac pacing, as well as their skills and confidence level in recognising and analysing pacing ECG and EGM.

However, skills and confidence in pacemaker checks and troubleshooting require experience and more exposure to cases. Therefore, by incorporating more sessions in the form of hands-on, and discussion and case studies in this programme will mostly likely improve these areas.

SHORT COMMUNICATIONS 22

D1148

EVALUATION OF THE STUDENT-ENGAGED STUDY SKILLS COURSE FOR FACILITATING YEAR 2 MEDICAL STUDENTS THROUGH THEIR TRANSITIONAL PERIOD: A QUESTIONNAIRE-BASED STUDY

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Background and Aims

Study skills course is very well known for its objective to help prepare students during transitional periods. It incorporates values and skills essential for further education. Study skills course at the Faculty of Medicine, Chulalongkorn University was first launched in 1988. It has been continually improved - especially during the past three years which Year 3-5 students have engaged in planning and running the course for Year 2 students. This study aims to evaluate the benefit of the 2018 study skills course for Year 2 students at the Faculty of Medicine, Chulalongkorn University.

Methods

A self-administered questionnaire was distributed to all second-year medical students at the start and the end of the course. The primary outcomes are the changes in their motivation for studying and their preparedness. The secondary outcomes are their satisfaction and their opinions whether the course should be held in the following years. Paired t-test was used to demonstrate statistically significant mean difference in the ratings in pre and post evaluation. SPSS Statistics 22 was used for data analysis.

Results

Mean score of motivation for studying increases from 3.76 (SD 0.76) to 4.01 (SD 0.68), with mean difference of 0.26 (p<0.001, effect size 0.37). 32.6% of the respondents show increased motivation in studying, in contrast to 8.9% who report a decrease. Mean score of preparedness for the second year increases from 2.73 (SD 0.83) to 3.19 (SD 0.83), with mean difference of 0.47 (p<0.001, effect size 0.51). 44.7% show increased preparedness for the second year, in contrast to 8.9% who report a decrease. This study also shows the participants' improvement in the determination to be good doctors, increased understanding of the curriculum, and increased knowledge of techniques to succeed in Year 2 study. The top-three most favourable sessions are 'lessons learned from Intern 3', 'experiences from old-timers', and 'how to survive and succeed in the next three semesters', respectively. The average score for whether the course should be held in the following years was 3.96 (SD 0.82).

Conclusion

This study demonstrates that the 2018 study skills course for Year 2 Chulalongkorn medical students is beneficial. The integration of 30-year experiences of organising study skills course, the creativity and contribution of Year 3-5 students who were once the course participants, and the specific activities tailor-made for the students' interests are the three key factors which help make the objectives of the study skills course more achievable.

D1149

THE HIDDEN STRENGTHS OF SIMULATION: DEVELOPING A SIMULATION CURRICULUM THAT PROMOTES RESILIENCE, GRIT AND A SENSE OF PURPOSE

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Background and Aims

Worldwide demand for competent, innovative healthcare professionals continues to expand. In the United States, the role and responsibilities of the pharmacist has expanded well-beyond the community setting. Pharmacists are active members of the healthcare team and are frequently involved in direct-patient care. Accordingly, Doctor of Pharmacy programmes must identify effective teaching methods that prepare their students for a dynamic, rapidly evolving profession. We have designed a three-year integrated high-fidelity simulation (HPS) curriculum that allows for application of knowledge as well as the deliberate practice of skills and behaviours (non-cognitive) that are essential for professional practice.

Methods

Beginning in 2010, we designed, integrated and continue to deliver high-fidelity simulations into our college's Doctor of Pharmacy curriculum. Beginning in the first professional year (P1), simulation is used to illustrate basic pharmacologic principles such as autonomic pharmacology and cardiac physiology while also introducing complex disease states such as septic shock. In the second professional year (P2), students practice physical assessment skills, formulate therapeutic recommendations for simulated patients with common disease states (ex. asthma and COPD) and practice communication skills with both the patient and family. Scenarios of greater complexity and depth are introduced at the end of second professional year (ex. traumatic brain injury, anesthesia selection etc.). In the third professional year (P3), complex multi-system disease states require students to use higher-level critical thinking skills while using a team-based approach to patient care.

Results

Our simulation-based curriculum places emphasis on reflective practice and personal growth. These largely silent objectives remain crucial to the effectiveness of our simulation curriculum. Through multi-year self-assessment we have found that medical simulation, specifically HPS, provides an ideal opportunity for multi-dimensional learning that appeals to today's technology driven learners. We will present the curriculum design and objectives as well as results of student perception (IE- including evidence of student progress in non-cognitive domains).

Conclusion

Despite limited experience, students are expected to function as professionals upon graduation. To reach this goal programmes and faculty need to reevaluate and revise both content and method of delivery to optimise student outcomes. We have successfully implemented a multi-year simulation curriculum that has been widely accepted by our students and adopted by other professional programmes. While designed for pharmacy students, we believe our unique simulation-based curriculum offers an active learning platform that can be readily adapted for medical or nursing programmes.

D1150

EXTENDED LENGTH OF STUDY OF NEUROLOGY RESIDENCY PROGRAMME AT UNIVERSITAS INDONESIA

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Background and Aims

One of good indicator on residency programme in Universitas Indonesia is lower rate of extended length of study. Time to complete neurology residence programme in our institution was 8 semesters. Academic and non-academic factors were proposed to influenced the graduation time. This study aims to describe the rate of extended length of study and identify whether extended length of study was due to academic or non academic factors.

Methods

We collect and analysed retrospective academic and non academic data of all neurology residents who completed their study in 2013 - 2018 and registered as resident from the year of 2009. Academic factors included were grade point average (GPA) score of medical doctors and status of undergraduate university. Non-academic factors were age at commencement of studies, gender, marital status, financial support, and resident's acceptance status.

Results

A total of 60 subjects were enrolled in this study with majority of subjects were female (70%). The median age of subjects was 27 years old (24-38 years old). Fifth one point seven percent subjects had extended length of study, with median extending time was 1 to 3 semester. On academic factors, mean of GPA score was 3.15 ± 0.35. GPA score less than 3.00 statistically significant showed higher chance of extended length of study (p=0.04, OR 3.52 95% CI 1.06 - 12.07). Subject who come from private

university tend to had extended length of study (57.1% vs 50%). Meanwhile in non-academic factors, median age of residents who had extended length of study was 27 (24-38) years old vs 27 (25-38) years old who graduate on time. Male residents , 12 (66.7%) tend to experience extended length of study but not statistically significant (p= 0.0128). Married residents also tend to extend the study 25 (59.5%) (p= 0.0063). Unsurprisingly, residents who pay student fee from personal source showed lower frequency of extended length of study (45.8%) compared to residents who got financial aid (75%), but the difference only marginally significant (p= 0.071). Furthermore, in residents' acceptance status showed only slight different between regular students 17 (50%) vs non-regular students 14 (53.8%) of extended length of study. Multivariate analysis showed that none of these factors as independent factor to cause extended length of study.

Conclusion

Extended length of study was still a major problem in our institution which encountered over half of residents. GPA score less than 3.00 was the only significant associated factor, although it was not independent factor.

D1151

GAMIFYING THROUGH THE ANATOMY MUSEUM

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Background and Aims

The anatomy museum at the YLLSoM is currently under utilised by the junior medical students. We aim to increase its usage by having the students navigate through a maze embedded within it as part of their weekly tutorial class. Along the way, the medical students will get to learn more about the pots and its content (e.g Brachial plexus and its branches). The questions associated with the pots/stations would be based on the tutorial objectives so that the formal learning outcomes will be achieved.

Methods

The ten (10) stations that formed the maze will have clue questions that the students (group of 4) must answer correctly in order to proceed to the next. Any wrong responses will lead them to a pot/station whereby there will be no further lead (i.e. dead end). They will then have to return to the original pot/station and figure out the correct answer. There will be further clue which will then lead them on, so on and so forth. Upon finishing the ten stations, the maze would have been successfully navigated.

The maze time (Gamification) will be deducted from the tutorial contact time, and as such will be considered as active learning for the students.

Results

We do not have any results at this moment but we speculate that the learning process will be more engaging compared to the didactic manner of teaching in a tutorial class. We also believe that the students will now have no choice but to spend more time in the museum in order to navigate through the maze to complete the task.

We have shown in our earlier work that gamification (including other interventions) helps medical students perform better at the end of CA and examination (Accepted for publication in the journal "Clinical Anatomy")

Conclusion

No conclusion from this study yet as data collection has not been initiated.

D1152

OSCE AS A FORMATIVE ASSESSMENT AS WELL AS A LEARNING METHOD IN UNDERGRADUATE PROGRAMME: THE SATISFACTION FROM STUDENTS AND INSTRUCTORS

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Background and Aims

Objective structured clinical examination (OSCE) has been known as a valid and reliable method to assess the skills of medical students since nineteen seventies. However, OSCE was more time-consuming and more expensive in terms of human resources and cost than the structured oral examination. OSCE is also a stressful exam for students especially in summative assessment. Students should be familiar with the OSCE at their daily learning activities to prepare themselves better and decrease their stress level. The aim of this study was to explore the satisfaction of students and instructors on an OSCE as a formative assessment as well as a learning method; to analyse the association between OSCE scores as a formative assessment and a sumative assessment.

Methods

A cross-sectional study was conducted on 142 students from first, second and third years and 40 instructors chosen by simple random sampling method. Formative OSCE was held two times with different cases in every exam. Each formative OSCE had two sessions. In the first session, students performed the task that was given to them on a standardised patient. In the second session, students made a self-reflection about their performance and the instructors gave them feedback based on what they had observed in the first session. All subjects were asked to fill out a feedback questionnaire after the second session. Authors also analysed the correlation between formative and summative OSCE scores.

Results

Most subjects felt satisfied (54.9 %) with this method, while the others felt quite satisfied (35.7%) and very satisfied (9.3%). Similar to this, more than two-thirds of the instructors also felt satisfied (67.5%), and 7.5% instructors felt quite satisfied. Statistical analysis with Chi-square test showed that student scores at formative OSCE has a significant association with those of the summative OSCE (p=0,02).

Conclusion

Both students and instructors felt satisfied with the OSCE as a formative assessment as well as a learning method. The scores of formative OSCE have a significant association with the summative OSCE.

D1153

12 TIPS TO ENHANCE THE CLINICAL AND EDUCATIONAL EXPERIENCE OF MEDICAL STUDENTS IN GENERAL PRACTICE(GP

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Background and Aims

Clinical placements are in high demand, limited in number, and difficult to quality control. Medical student numbers have grown disproportionately to GP numbers and clinical placement numbers. This has diluted the duration and concentration of clinical exposure in most specialties including general practice.

In general practice placements the case mix is unpredictable which results in voids in the curriculum covered and the clinical skills acquired.

We needed change to improve students opinions about the learning gained from their clinical experiences in general practice and the associated teaching programme. We also wanted to increase the attractiveness of general practice as a career choice to improve on GP numbers

Methods

Ideas were discussed about the most important curriculum issues at a meeting between general practitioner supervisors, academic general practitioners from local universities, and medical students . Guided by the outcomes of those discussions; we transitioned from traditional lecture programme to student centred learning, using faculty specified general practice and community based self-directed activities, that are transformed into student led teaching within the flipped classroom.

Results

Twelve Tips

- Concise and precise learning outcomes

- GP appropriate skills training of students before placements

- Link Feasible Student activated activities to learning outcomes

- Avoid making extra work for GP preceptors

- Promote learning from multidisciplinary GP team

- Home visits to patients, carers and medications

- Use real Patients' stories to illustrate the curriculum

- Use Patients' questions to drive EBM skills and practice shared decision making

- Give directives that include some choice

- Use Faculty led teaching and online resources that provide key learning activities

- Facilitate Student led teaching to share the learning and cover the curriculum for all students

- Assess because "assessment drives learning"

Conclusion

Innovation using the 12 tips has enhanced the clinical activities, experience, and learning of the desired curriculum, for our students on general practice placements. Clinical placement evaluations show a high approval rating for our GP clinical placements, especially when compared to other clinical rotations

It is possible to enhance the student experience and improve alignment of the clinical activities, curriculum, learning outcomes and assessments using simple innovations, without adding to the burden on clinical supervisors, or the costs of the medical school.

D1154

LKCMEDICINE STUDENTS' PERCEPTIONS OF PREPAREDNESS FOR PRACTICE: QUALITATIVE INTERVIEW FINDINGS

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Background and Aims

Factors affecting students' level of preparedness for practice include sociodemographic details, medical curricula, pedagogy and clinical environments. This study explores preparedness for practice amongst the first cohort of LKCMedicine graduates in order to examine the alignment between graduates and employers' needs, and the curriculum. All final year students (n=52) were invited to complete an online questionnaire at the time of their Student Assistantship Programme (SAP) covering: preparedness for clinical practice; perceptions of clinical placements; and experience of acute care situations. The SAP is a 10-week assistantship programme that prepares students for the start of Postgraduate Year 1 (PGY1). It is taken after final examinations and three months before graduation.

Methods

Semi-structured interviews were conducted with students (n=16) who gave consent to a follow-up interview to explore their questionnaire responses in more detail. All interviews were audio recorded, transcribed in full and anonymised prior to a thematic analysis. Three researchers independently coded a random selection of four transcripts to agree the coding frame, which was then applied to the remaining transcripts.

Results

Three main themes emerged: a) Preparedness as a combination of personal motivations and training opportunities, for example communicating with patients and within clinical teams, and how to maintain professional and personal boundaries; b) preparedness as a continuing process rather than a discrete end point in itself, and how to manage uncertainty; c) the importance of having safe learning environments that can support students in the on-going development of their knowledge and skills within a constructive and professional culture.

Conclusion

Students felt that their undergraduate experiences, together with the Students Assistantship Programme, had prepared them for practice but they recognised that "preparedness" was a continuing process and valued highly opportunities for on-going mentoring and professional support. These are key areas for medical educators to consider when structuring postgraduate clinical postings and curricula.

SHORT COMMUNICATIONS 23

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Fitri Octaviana, Indonesia

D1156 **How Thai Preclinical Medical Students Do Self Learning in Small Group Seminar and Effect on Performances**
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D1157 **Career Sample of Different Physicians- Early Clinical Experiential Learning from Medical Students**
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D1159 **Internet Usage Among Medical Students in Faculty of Medicine and Allied Sciences, Rajarata University of Sri Lanka**
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D1155

EXTENDED LENGTH OF ROTATION TIME IN NEUROLOGY RESIDENCY PROGRAMME AT UNIVERSITAS INDONESIA AND ASSOCIATED FACTORS

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Background and Aims

Extended length of rotation time (ELRT) was one of substantial problems in residency programme. The previous report of our institution showed that ELRT significantly affect the rate of extended length of study. Residents who experienced ELRT risk to approximately 7 fold higher to extended length of study. This study aims to report ELRT in our institution and to identify its associated factors.

Methods

We collected and analysed retrospective academic and non-academic data of all neurology residents who was enrolled as resident from the year of 2009 -2014 and has already completed the 2rd year. We measured the rate and duration of ELRT, then identified academic and non-academic factors. Academic factors consist of GPA (Grade Point Average) score of medical doctors and status of undergraduate university. Non-academic factors consisted of age at commencement of studies, gender, marital status, financial support, and resident acceptance status.

Results

A total of 66 subjects were enrolled in this study with majority of subjects were female 46 (69.7%). The median age of subjects was 27 (24 - 38) years old. Forty-two subjects (63.6%) experienced ELRT, with median duration was 2 (1 - 12) months. Approximately 60% subjects experienced ELRT at the 1st year (2nd - 3rd semester), with median duration was 2 (1 - 7) months. And 19 (28.8%) at the 2rd year (4th - 5th semester), with median duration was 1 (1 - 6) months. A quarter of subjects experienced ELRT at both 2nd and 3rd grade. The mean of GPA score was 3.14 ± 0.36. Fourteen subjects (82.4%) with GPA score < 3.00 experienced ELRT vs only 18 (48.6%) subjects with GPA > 3.00 (p.0.015). There was also significant difference in the mean of ELRT duration between subjects with GPA score < 3.00 (3.64 ± 2.59 months) and GPA score > 3.00 (1.89 ± 0.67 months). Subjects from private university 14 (77.8%) showed higher proportion of ELRT in compared with subjects from government university 28 (58.6%), though not statistically significant (p. 0.14). None of non-academic factors showed significant difference in proportion of ELRT. Nevertheless, this study showed that male, married subjects, subjects with non-regular/extension status, and subjects who got financial aid tends to experience ELRT more commonly.

Conclusion

There was a significant number of ELRT in our institution which encountered over the half of residents. ELRT mostly occurred at the 1nd year. Further serious results showed that a quarter of residents experienced ELRT at 1nd and 2rd year and the maximum duration of ELRT could reach 12 months of rotation time. GPA score was the only significant associated factors with the rate and duration of ELRT.

D1156

HOW THAI PRECLINICAL MEDICAL STUDENTS DO SELF LEARNING IN SMALL GROUP SEMINAR AND EFFECT ON PERFORMANCES

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Background and Aims

Small group seminar was used to deliver knowledge, promote discussion skills, presentation skills and facilitate thinking. Teachers had the major role in assistance and stimulation rather than direct teaching. Preclinical medical students were assigned problem based tasks to prepare for presentation and discussion which required self learning and collaboration. How they prepare and the effect on their performance have not been documented. Consequently, this study would be performed in order to investigate how Thai preclinical medical students did self learning and found correlation between each factor and each achievement such as pre-post test scores, data preparation, presenting readiness, and answering questions.

Methods

One hundred thirty four medical students (46.3% male) who were studying in the second year were participated in a survey of demographic data, emotional status and characters of pre-classroom preparation. Also, pre-post written examination scores and performance scores (data preparation, presentation skills and answering questions) were collected in the small group by four experts from physiology department, faculty of science, Mahidol University. All processes were repeated in two topics such as renal and endocrine physiology. Statistical tests for description and correlation were performed. Pearson correlation was applied to find which factors significantly affected academic achievement and performance of medical students.

Results

Only nineteen students (13.5%) studied alone and twenty nine students (22%) completed more than half of the assignment. The first choice they selected to consult or need help was their friends, however, only seven subjects (5.7%) preferred asking friends and other people, for example, teachers. Forty six students (42.6%) did distance learning by searching for gaining knowledge from various references. Most of these people used secondary data from internet especially from e-medicine. Some of them chose other references such as professor-recommended textbooks and other textbooks. The quality of case assignment was definitely perfect from one hundred twenty nine students (97.7%) replying that the case was appropriate. About correlational study, pre-post test scores were significantly improved after small group seminar. Grade point average was the significant factor associated with pre-test ($p < 0.01$), post-test ($p < 0.01$) and data preparation ($p < 0.01$). The factor which was significantly associated with presenting readiness was emotion ($p < 0.05$). Students' knowledge was significantly associated with data preparation ($p < 0.01$) and questions and answers ($p < 0.05$) by statistics.

Conclusion

Small group seminar can effectively improve level of knowledge among Thai preclinical medical students, indicating that this technique is able to be applied in general medical teaching. Nevertheless, students' responsibility on tasks completion, emotion condition and promoting collaborative learning should be focused. Further research with more numbers of participants to explore the effects of task completion and collaboration is suggested.

D1157

CAREER SAMPLE OF DIFFERENT PHYSICIANS- EARLY CLINICAL EXPERIENTIAL LEARNING FROM MEDICAL STUDENTS

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Background and Aims

Early clinical exposure (ECE) is a new and rewarding trend in worldwide medical schools. Studies show that ECE helps medical students learn effectively and develop appropriate attitudes towards their studies and future practice. It also orientates medical curriculums towards society's needs. However, the impact of physicians' professional roles on medical students' perception in an ECE programme has never been studied before. With this view, the present work was planned to explore the different career choice and time management between physicians and medical students.

Methods

18 first-year medical students were divided into 9 groups of 2 to selected departments-General Medicine, Paediatrics, Psychiatry, Neurosurgery, Orthopedics, Anesthesiology, Emergency Medicine. Each student had at least 12 hours of clinical exposure. During the programme, the students would ask physicians to complete a questionnaire. The students would read out through the questions for the physician after the physicians have answered, the students would then answer the same

questionnaire themselves. This questionnaire is a modified version of the model of Bronfenbrenner's ecological systems theory. It was developed with regards to getting the physician's information as an individual; interaction with his/her family, his/her workplace (hospital) and with society. Each of the above four sections of information interest contains 4 related items, and one item contains two parts: one five-point Likert scale (1=never, 2=infrequently, 3=sometimes, 4=frequently, 5=always) and one open-ended question. The outcome of 16 Likert questions was represented by a radar chart as a career figure. The open-ended questions were analysed qualitatively.

Results

A total of 27 career figures for 9 physicians and 18 students were established using the information from the questionnaires.

According to the results of the Likert scale data, this study includes the following five different comparisons: surgeons and internists, surgeons' students and internists' students, internists and their students, surgeons and their students, all the physicians and all the students.

According to the results of 16 open-ended questions, this study shows a difference between physicians and medical students. In the individual section, the diversity in locations of on-the-job training, the frequency of exercise and health examination, difference in eating habits, religious activities, personal interests and self-improvement activities are revealed. In the family section, it reveals how much time married people spend with their spouse and children or doing family activities like house chores in a day. In the hospital section, it reveals the number of patients he/she sees in a day, and the average time spent with each patient. It also gives us information on which department he/she spends his/her time the most as well as the amount of time he/she spends in clinical teaching or other administrative work if available. In the society section, it gives information on whether he/she participates or not in social service associations, public health promotion policy associations, diverse social groups, professional medical association, etc.

Conclusion

The career figure of each physician looks unique, and amongst the medical students, there is no career figure that resembles that of the physician's.

D1158

DEVELOPING KOREAN GERIATRIC COMPETENCIES FOR FAMILY PRACTITIONERS

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Background and Aims

According to the International Associations of Gerontology and Geriatrics, more than 65 countries are expected to become super-aged countries by 2050. and more, the aging of Korean is the fastest among other OECD countries. However, the number of geriatric professionals is very low.

Many advanced countries emphasise the necessity of geriatric medicine, and various training programmes and evaluation systems have been implemented to develop appropriate primary medical human resources. However, there are no training courses in Korea and the regulations are insufficient.

Methods

The study was conducted to contribute to the development of the elderly's medical care programme by the family medicine specialist according to the development of elderly care competency. Shortened competency modeling technique using expert panel developed by Spencer and Spencer Jr. was used.

Results

For the first step, geriatric specialists were asked about the necessity of medical care for the professionals engaged in elderly medical care for job analysis. As a result, ten essential items were suggested: multiple pathology, polypharmacy, memory impairments, mood disorders, frailty, falls, anorexia, incontinence, pain and health maintenance.

Second, based on the surveyed essential items, additional literature survey was conducted to establish the primary theoretical background of competency and to add expertise through expert discussions. After analysing the required items, the core competencies of foreign countries and discussing the experts' group, tentative competency were made. As a result, 26 detailed action indicators were set in 11 geriatric competencies.

In the third step, we confirmed the content validity of the competency through the geriatric expert about the geriatric care competency set which was made in the previous step by using the questionnaire. As a result, CVI value of all area was 7.0 and above.

For the last step, an online questionnaire was administered to all of the family medicine practitioner. A total of 213 respondents answered. Prior to the process of construct validation of the behavioural indicators, Preliminary analysis was done to find the differences between residents and primary, secondary, tertiary hospital. As a result, there was a statistically significant difference ($F = 4.732$, $p < .05$) in the 'importance' indicators, and resident group answer was lower than tertiary hospital doctors

According to the result, residents' data were excluded from the factor analysis and 155 valid responses were constructed. As a result, it was confirmed that the results were slightly different from the matching with the core competence group set in the previous paragraph, but the four factors were most persuasive as the factor number.

Conclusion

Based on this, the core competency matching was proposed. In conclusion, 11 geriatric competencies and 26 detailed behavioural indicators were derived under the 4 core competencies, Geriatric primary care specialty, Geriatric specific care specialty, Understanding of geriatric care facility and Exteriorisation of geriatric care.

D1159

INTERNET USAGE AMONG MEDICAL STUDENTS IN FACULTY OF MEDICINE AND ALLIED SCIENCES, RAJARATA UNIVERSITY OF SRI LANKA

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Background and Aims

Background: Many medical students of Rajarata university use internet at the computer lab for different purposes. There are websites specially designed for medical students according to their curriculum. Though internet being a good source of knowledge, some students don't use subject related websites maybe due to poor knowledge and awareness. Web-based learning environment to keep pace with rapidly changing the nature of technology in the field of medicine.

Aims: The study is designed to analyse the internet usage, promote awareness about educational websites and compare the results, among medical students of Faculty of medicine and allied sciences, Rajarata University of Sri Lanka.

Methods

A prospective study of 6 weeks duration was conducted among medical undergraduates of Rajarata university of Sri Lanka using internet at the computer lab at the faculty premises. During the first two weeks, internet usage data was collected using a computer monitoring software and add-ons. In the third week, a poster was presented to promote the educational websites. The last 2 weeks, again the internet usage data was collected and compared with the first 2 weeks.

Results

In the first 2 weeks, www.Kenhub.com is the only website in the top 10 most viewed websites of which yet to be introduced via posters in the third week. After promoting the websites; together with www.Kenhub.com, www.medscape.com and www.khanacademy.org came to top ten.

Conclusion

There is a positive effect on introducing educational websites for studying and the persistent usage of the introduced websites needs to be followed up longitudinally.

D1160

TEN YEARS OF EXPERIENCE,ZERO TO SUCCESS OF MEDICAL EDUCATION CENTRE IN RURAL AREAS OF NORTHEASTERN OF THAILAND

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Background and Aims

Background: In the last ten years, the distribution of doctors in the rural areas was a problem of the public health system in Thailand, the collaborative Project to increase Production of Doctors(CPIRD) was set up. Mahasarakham Hospital Medical Education Centre (MSKH MEC); Clinic Stage, has taken part in this project since 2008.This qualitative study is aimed to lesson learned on the setting of Medical Centre in the rural areas of the developing country.

Methods

Summary of work: In-depth interviews were used with 20 administrators, medical instructors, officers, students, guardians and all participants.

The questions consist of points of view towards the image of MEC MSKH, the aspects of the key success, and the next challenges. The obtained information is used for conclusion and presentation.

Results

Summary of Result: The majority points of view towards the image of MSKH MEC stated clearly that MSKH MEC is a trustworthy centre that produce high and acceptable quality graduates to serve the society.

The answers of the most interviewees are as the following:

Key success: the student selection process is reliable, Faculty of Medicine, Khon Kaen University has set up the same standard of the whole curriculum and also the format of the evaluation, administrators and teachers were dedicated on training and developing their students and had sufficiently supporting budget.

Challenge: a quality process on new students' selection, cultivate good values and positive attitude to the graduates, created positive identities and good reputation to the institution, role-model teachers who watch over them closely and an accurate evaluation process to fulfill their ability effectively.

Conclusion

Discussion: to set up MSKH MEC, it needs approval and co-operation of all participants. The key success is focused on the same standard of selecting of students and delivering system.

Conclusion:
To set up MSKH MEC successfully, it is needed to begin from selecting quality students process and follow by all aspects mentioned in the discussion.

Take home message:
In setting up MSKH MEC from the start until the success, it takes time, patience and the co-operation of all participants.

D1161

A PILOT INVESTIGATION OF THE LEARNING ENVIRONMENT OF AN INTERNAL MEDICINE RESIDENCY TRAINING PROGRAMME

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Background and Aims

Singapore adopted the American Council for Graduate Medical Education-International based residency training programme for post-graduate training since 2010. It is known that perceptions of the learning environment strongly influence the residents' approach to training as well as the outcomes of the residents' development. There is also a need to identify obstacles to creating a supportive learning environment. To our knowledge, there has not been a systematic study of the learning environment after the transition to the residency programme.

Methods

The aim of this study was to evaluate the learning environment of an internal medicine residency training programme using the Postgraduate Hospital Educational Environment Measure (PHEEM) and to analyse the potential areas for improvement. Questions were modified from the original questionnaire to suit the local context. This survey was administered to the National University Health System internal medicine residents.

Results

In this pilot study, a convenience sample of 23 residents responded to our survey. The median age was 27.0 years (IQR = 26.0 - 28.0). Fifteen (65.2%) participants were female, a majority graduated from a local medical school (n=16, 69.6%) and most were in their final year of residency training (n= 12, 52.2%). The mean total PHEEM score was 112 ± 15 (more positives than negatives but room for improvement). In terms of subscales, the mean score for perception of role autonomy was 38.0 ± 6.0 (a more positive perception of one's job), mean score for perception of teaching was 43.6 ± 5.1 (moving in the right direction) and mean score for perception of social support was 30.1 ± 5.1 (more pros than cons).

Conclusion

This preliminary study demonstrates that the PHEEM is a potentially useful tool to help to measure the clinical learning environment and identify the domains in which improvement can be made in a local residency training programme. Further studies are required to expand on these findings.

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Dyah Tunjungsari, Indonesia

D1163 **Teaching Medical Professionalism Using Manga**
Takeshi Kondo, Japan

D1164 **Comparison of the Efficacy of Didactic Teaching and Experiential Learning in Communication Skills Teaching for Medical Students**
U.G. Apeksha C. Kariyawasam, Sri Lanka

D1165 **Working Together-Learning Together- A Study on Willingness in Interprofessional Education**
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D1166 **Qualities of PBL Leader: The Students' Perspective**
Tayyaba Azhar, Pakistan

D1167 **Utilisation of Digital 'Clickers' System to Teach Cancer Screening to Medical Students**
Tan Hon Lyn, Singapore

D1168 **Effectiveness of Interactive Teaching Platforms in Enhancing Learning of Human Anatomy - A Pilot Study**
Satish R Lakshminarasappa, Singapore

D1162

IS NEUROLOGY DIFFICULT? A MEDICAL STUDENTS EXPERIENCE SURVEY IN INDONESIA

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Background and Aims

Neurology is considered as difficult medical specialty for medical students in Indonesia. The fear of this difficulty can influence the student motivation in learning neurology or continue their study in neurology specialty. There is still no data or study that elucidate Indonesian medical student perspective about neurology in general and what make it so difficult. The aim of this study is to investigate factors that might contribute to the difficulty of neurology among medical students.

Methods

We obtained data from questionnaires that was filled in the end of neurology modules at faculty of medicine Universitas Indonesia. We used electronic based data, and the students filled the questionnaire trough the website, the Student Centred-Learning Environment (SCELE) that was hosted by Universitas Indonesia. The statistical analysis was done using SPSS.

Results

There were 151 respondents consist of third and fourth year medical students. Most of the students (57%) felt that module duration for 4 weeks were enough time to study neurology to fulfill their competence as a future general practitioner. The overall mean score from the students for this module, from scale 1-100 (1 consider very bad, 100 as very good), is 75.2. All of the learning methods, with using bedside teaching, clinical rounds, case presentation, topic discussion, morning report, public counseling, formative and summative tests, were considered helpful in the same manner to understand the learning objectives. They also felt that experience during their work in emergency department, neurology-neurosurgery clinic and wards, and also the neurosurgeon operating theater were help them mastering the neurology problem. The students also stated that they felt comfortable in doing clinical examination (2.8; from scale 1-5) and analysing differential diagnosis (2.9; from scale 1-4) in neurology cases. In the end of the modules, the summative scores was 75.8 and the OSCE score was 78.7. Meanwhile, the neurology difficulty level according to the students is 8.6, from scale 1-10. Neuroanatomy and neuroscience were considered giving the biggest contribution as difficulties in learning neurology. In the other side, the students also interested in developing career as a neurologists (2.9; from scale 1-5), especially because its sustainability in developing skill and education and in research.

Conclusion

In this study, we found that the fear of neurology difficulty is not supported with the students experience and the final test score that show they managed to fulfill their learning objectives and competencies. Neuroanatomy and neuroscience were the biggest contribution of student fear of neurology. Neurology education has its own challenges to change the perspective that the neurology is difficult, that could interfere the medical education process. This stigma should be avoided since early stage of medical education.

D1163

TEACHING MEDICAL PROFESSIONALISM USING MANGA

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Background and Aims

There are growing interest about teaching professionalism to medical students. It's challenge for medical teachers to conduct stories and complex context of medical situation. To tell the story to students, movies are often used. It's called cinemeducation. Comics are also have a great ability to tell the story. There are some reports about using comics for patient education. Especially, Japanese comic books which are known as manga are said to have great potential for medical education, but there are no report about using manga to teaching professionalism. Our purpose is to know the impact of using manga to teaching professionalism.

Methods

A class using manga to educate professionalism to medical students was conducted. We choose the 4th grades student, since they start training at the hospital in 5th grades. First, the students read a story about a patient with cancer in "Give My Regards to Black Jack". Next, they wrote down their opinions to the paper. and then they discussed about the story and added what they notice during the discussion to the paper. We qualitatively analysed the students' paper that the students allowed us to use in academic purpose. Video records of the class were also examined with students permission.

Results

Manga helped arousing interest, promoting discussion and understanding the context. The students could understand stories quickly with manga and they could review story during discussion. It sometimes had negative effects. Too exaggerated expression decreased empathy for stories and disturbed comprehension for some students.

Conclusion

Manga has distinct characters when they used to teach medical professionalism. To use manga effectively we should understand these characters.

D1164

COMPARISON OF THE EFFICACY OF DIDACTIC TEACHING AND EXPERIENTIAL LEARNING IN COMMUNICATION SKILLS TEACHING FOR MEDICAL STUDENTS

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Background and Aims

Teaching communication skills by didactic teaching methods may not help to achieve the desired outcome. The improved efficacy of teaching by experiential learning has been documented. Inclusion of communication skills teaching to Sri Lankan medical school curricula is increasing. However, acceptance of experiential learning into curricula is low. Lack of motivation, time constraints, socio-cultural differences and poor availability of simulated patients are possible reasons. Thus, we designed this study to compare didactic teaching and experiential learning among final year medical students in a single centre in Sri Lanka.

Methods

An experimental, observer blinded, case control study with pre and post-test design was conducted in Colombo South Teaching Hospital. Entire group of students (29) in a Paediatric unit was invited. They were randomly allocated to two groups (G1&G2) after informed consent. Study outcome measures included an Objective Structured Clinical Examination (OSCE) and Patient Practitioner Orientation Scale (PPOS). OSCE was marked out of 100. PPOS is a self reporting, validated 18-itemed tool that assess patient-centredness along sharing and caring attitudes. G1and G2 went through an experiential learning session and a 2-hour interactive lecture, respectively. Independent investigators conducted the pre and post-test assessments. Ethical clearance and clinical trials registry approval were obtained.

Results

Total of 29 students were enrolled. Female to male ratio was 1.6:1. Overall (both groups) mean pre-test OSCE score (SD) and post test score (SD) was 49/100 (13.7) and 65/100 (11.8) respectively and improvement in score was statistically significant (p<0.01). Improvement of score in each group separately was also statistically significant (G1-p=0.001 and G2- p=0.002). However, when two teaching methods were compared, there was no statistically significant difference in improvement of OSCE score (p=0.81). Mean pre-test PPOS score (SD) and post-test score (SD) of G1 were 3.37 (0.61) and 3.84 (0.48) respectively. In G2, mean pre-test (SD) and post-test (SD) score were 3.18 (0.46) and 3.39 (0.47). When pre/post PPOS score of two groups were compared separately, a statistically significant improvement was noted (G1: p=0.001,G2: p=0.03). However, group received experiential learning showed significantly better improvement than the other (p=0.03). Pre/post PPOS sharing scores of G1 and G2 were 3.23 (SD=0.74), 3.70 (SD=0.63) and 2.98 (SD=0.43), 3.18 (SD=0.52) respectively. PPOS sharing score increased significantly in G1 (p=0.001) whereas in G2 improvement was not considerable (p=0.10) with intervention. Improvement of G1 was significant when groups were compared (p=0.029). Pre and post, caring scores of G1 were 3.46 (SD=0.59), 3.96 (SD=0.48) and G2 were 3.36 (SD=0.62) and 3.59 (SD=0.68). Significant improvement was noted in both groups for caring (p=0.001&p=0.03); however G1 score was not significantly higher than G2 score (p=0.13) for caring.

Conclusion

Both didactic teaching and experiential learning has shown a significant improvement in communication skills and attitudes although there was no difference between the two methods. Medical students' patient centredness and caring and sharing attitudes in communications skills improved better with experiential learning method. Therefore, adopting experiential teaching methods could contribute for better learning outcomes by improving patient centredness & attitudes in doctor patient communication.

D1165

WORKING TOGETHER-LEARNING TOGETHER- A STUDY ON WILLINGNESS IN INTERPROFESSIONAL EDUCATION

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Background and Aims

1. To determine faculty readiness /Willingness for Interprofessional Education programme.
2. To determine students readiness / willingness for interprofessional education programme
3. To analyse most important factors influencing student's Perception of Interprofessional education.
4. To analyse factors inhibiting Interprofessional education.

Methods

RIPLS scale was given to faculties and students of Medical ,Dental and Nursing faculties and students.

Questionnaire were analysed by dividing them into 4 main domains like

a. Learning together will improve patient care.
b. Shared learning improves professionalism.
c. Welcome opportunity for learning together.
d. Waste of time and egoism.

Each faculty and students forms were analysed separately.

Results

In comparing the score students of each discipline were more interested in Interprofessional education. 3 domain mostly strongly agree and one negative domain it was strongly disagree. Both faculties and students have informed combined teaching will improve patient care.

Conclusion

Medical, Dental and Nursing students and faculties all were willing to attend class together willing for Interprofessional education and felt right time to move towards interprofession education.

QUALITIES OF PBL LEADER: THE STUDENTS' PERSPECTIVE

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Background and Aims

Problem based learning is an educational strategy in which students work together in a collaborative way to solve a given problem/scenario that they are expected to experience in their real life setting. Students' work in a group of 6- 8, one of them among the group is the group leader, one is scribe while the remaining are the group members. The group members' work under the leadership of the group leader. Problem based learning helps in forming the foundation of the leadership skills.

Methods

This was a qualitative descriptive exploratory study conducted in the University College of Medicine and Dentistry. Total 30 MBBS students were included in the study. Three focus group discussion sessions were conducted. The sessions were tape-recorded and were then converted into written document. The data was analysed by using Atlas ti; a qualitative data analysis tool and themes were generated.

Results

Initially the entire document was read and line to line coding was done which resulted in 300 codes, a second cycle of coding resulted in 95 codes, which were reduced to 78 codes after the third cycle. Finally, 17 codes were formed which were pertinent to the research objective and 5 themes with various sub-themes.

Conclusion

PBL promotes collaborative learning under the group leader. The qualities of a group leader greatly affect the success of the PBL session. This current study provides a guideline to students and medical colleges regarding the qualities of PBL group leaders and will also help in inculcating these qualities

UTILISATION OF DIGITAL 'CLICKERS' SYSTEM TO TEACH CANCER SCREENING TO MEDICAL STUDENTS

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Background and Aims

Screening and detection of early cancer is often neglected or not emphasised in conventional medical school curriculum. We have revised the Oncology Module teaching in Medical Faculty of National University Hospital (NUS) to include a lecture on Cancer Screening in Singapore. We aim to explore utilisation of digital 'clickers' system as the teaching tool.

Methods

Students answered five pre- and post- lecture true/false multiple choice questions (MCQs) on aspects of cancer screening in Singapore. We also collected students feedback, perceptions and attitudes towards using this digital 'clickers' system in medical teaching. Poll Everywhere is the digital 'clickers' system employed campus-wide

Results

Cancer screening lecture was conducted for a cohort of 100 medical students in phase II (second year) medical students. More than 95% responded to the digital clickers. There was an improvement in the score for the five pre- and post- MCQs ranging from 16% to 53%.

70% of students agree or strongly agree that digital 'clickers' allow them to actively participate in the teaching and 63% reported it gave them safe space to engage actively. 67% students reported better understanding of the cancer screening utilising 'clickers'. Further 58% agree/strongly agree that it provides instant feedback on their knowledge gaps. 67% felt it was an effective and helpful method of teaching. 59% of them would recommend digital 'clickers' as part of teaching pedagogy.

Conclusion

Digital 'clickers' system improved students understanding of cancer screening in Singapore as evident by the improved MCQ scores. Students felt strongly that digital 'clickers' system allow them to participate actively in the teaching and allows good feedback on their learning level. More than half of the class would recommend this as part of future teaching.

D1168

EFFECTIVENESS OF INTERACTIVE TEACHING PLATFORMS IN ENHANCING LEARNING OF HUMAN ANATOMY - A PILOT STUDY

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Background and Aims

In medical education, traditional teaching methods are slowly being supplemented or replaced with new and innovative ones. More interactive forms of teaching are being used to engage students with a hope to leave a lasting impact and hopefully increase the knowledge and understanding of the topic being taught. In this pilot study, we have used Kahoot!; a relatively new interactive learning platform, and assessed its benefit on the students.

Methods

One hundred seventy students from National University of Singapore were subjected to Kahoot! in one of their anatomy classes. A survey was conducted to gauge their level of interest and understanding of the subject after the use of Kahoot! and also asked whether they prefer these forms of interactive teaching methods. Students were subject to a 5-point scale questionnaire.

Results

Preliminary results showed that 82.9% of the students found the use of Kahoot! useful in the learning of Human anatomy, with 95.8% having better understanding of the topic (human Anatomy) after the use of Kahoot!.

Conclusion

In this pilot study, students found the use of Kahoot! enjoyable and beneficial in the learning of human anatomy and found Kahoot! useful in retaining the information.

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D1169 **Development of Adolescent Health Module in Undergraduate Medical Education Curriculum: Exploration of Stakeholders' Views**
Vini Jamarin, Indonesia

D1170 **A Survey of Cases in Emergency Rooms to Create Educational Scenarios for Developing Cultural Humility**
Ruri Ashida, Japan

D1171 **COPD Interprofessional Learning for the Real World Practice**
Chalalai Klaipim, Thailand

D1172 **Comparison Between the Real and Potential Dropout Rates Among Medical Students at King Saud University, Riyadh, Saudi Arabia**
Khulud Alanazi, Saudi Arabia

D1173 **A Novel, Multi-Modality Near Peer Teaching Programme: Integration of Lectures, OSCE and Simulated Ward Rounds with Standardised Patients for Final Year Medical Student**
Koh Teng Kiat, Singapore

D1174 **Use of Local Language in Summative Examinations Held in English Medium Medical Education**
Sarah Chan So Ching, Hong Kong S.A.R.

D1175 **Utilisation of the Theory of Planned Behaviour to Characterise Medical Students' Sleep Intentions**
Scott Compton, Singapore

D1169

DEVELOPMENT OF ADOLESCENT HEALTH MODULE IN UNDERGRADUATE MEDICAL EDUCATION CURRICULUM: EXPLORATION OF STAKEHOLDERS' VIEWS

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Background and Aims

Non-communicable diseases (NCDs) are the leading cause of mortality worldwide. Global trends show that behaviours related to NCDs such as alcohol and tobacco use, bad eating habit, and lack of physical activity are increasing in adolescents. Such NCDs issues on adolescents should be incorporated into education and training of future medical professionals. The current curriculum of Indonesian undergraduate medical education has not emphasised adolescent health adequately. This study aims to explore stakeholders' input for an adolescent health module development in relation to NCDs prevention for undergraduate medical study.

Methods

This study used a qualitative approach involving in-depth interviews of key stakeholders: Adolescent Health Division Ministry of Health, Primary and Secondary Education Division Ministry of Education and Culture, and Member of Competency Standard for Indonesian Medical Doctor Development Committee. All interviews were audio-taped and transcribed verbatim. The transcripts were analysed thematically.

Results

There are seven themes identified which are focus of adolescent health, existing adolescent health topics, inter-sectoral collaboration in improving adolescent health, factors affecting adolescent health programmes, challenges in implementing curriculum related to adolescent health, adolescent health in primary and secondary school graduates competencies, and adolescent health topics in the Indonesian medical doctor standard of competency. Each theme is made up of several subthemes which described the current situation of adolescent health education in Indonesia from primary to tertiary education. For example, in the Indonesian Medical Doctor Standard of Competency, the existing adolescent health topics are pregnancy in teenagers, sexual violence, and risky behaviour during puberty. Despite the specific aim of this study, the inputs from key persons outside medical education are useful to inform module developer regarding the common health problems of adolescent and the proposed emphasis of adolescent health competencies for future module in undergraduate medical education.

Conclusion

Adolescent health issues are still rarely discussed not only in medical curricula in Indonesia, but also throughout the continuum of education. In light of the significant problems of adolescent health, an educational programme in adolescent health for medical students is necessary to equip them with the ability to prevent and overcome adolescent health problems, especially in primary setting.

A SURVEY OF CASES IN EMERGENCY ROOMS TO CREATE EDUCATIONAL SCENARIOS FOR DEVELOPING CULTURAL HUMILITY

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Background and Aims

With more visitors from foreign countries coming to Japan, more will be patients in hospital emergency rooms (ERs). Healthcare workers in ERs must immediately make decisions to treat such patients while caring for their cultural concerns. We conducted a survey to (1) identify problems arising from cultural differences in foreign patients, (2) share with other ER staff how problems are dealt with, and (3) create educational scenarios for developing cultural humility.

Methods

A questionnaire was sent to the ERs of university and residency training hospitals (n = 457) in 10 prefectures with the most foreign visitors.

Results

Responses were received from 141 hospitals (30.9%). Among these hospitals, 118 (83.7%) had accepted foreign patients and 23 (16.3%) had not. The language issues were dealt with by ER staff who spoke the language and by the help of translation applications on iPads, books, or interpreters. For patients who spoke languages through which ER staff could not communicate, help was sought from embassies, language schools, and patients' companies. ER staff struggled to take all means to satisfy the patient's requests. Some patients refused to be treated in a foreign country and wished to return to their home countries and be seen there by their physicians. In one such case, a physician was called from the patient's home country, and in another case the family tried to bring the patient home, causing the patient to fall into a critical condition. Another problem was differences in healthcare systems between countries. Some patients believed that healthcare fees in Japan could be negotiated.

Conclusion

ER staff were always concerned whether treatments had been sufficiently explained to patients. The survey showed that they were facing these problems without previous training and suggested the need to prepare them to better care for foreign patients in difficult situations. Training with simulated patients using educational scenarios based on staff experiences will help healthcare professionals understand situations with cultural humility.

Staff experiences widely shared with students will enable future healthcare professionals to care for patients with cultural humility. It is important to make foreign patients feel comfortable in receiving care and, also, to enable staff to give care with ease.

COPD INTERPROFESSIONAL LEARNING FOR THE REAL WORLD PRACTICE

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Background and Aims

COPD is a problem worldwide now. Caring COPD patients need multidisciplinary team for less hospital admission, admission days, ventilator days and for caring themselves at home. Holistic education was designed for 5th year medical students, 5th year pharmacist students, 3rd year nurse students and 4th year rehabilitation students for learning caring COPD patients in many important situations.

Methods

We have performed IPE by team teaching (medical teacher, nurse teacher, pharmacist teacher, rehabilitation teacher) as the following:

1. Basic of disease all modalities by lecture
2. Practice: divided in four groups consists of all multidisciplinary learning with one patient for each group on 4 situations:
A. COPD with AE at emergency room
B. COPD with AE admit ward
C. COPD with AE with acute respiratory failure
D. Discharge planning of COPD patient after exacerbation

   At ward: Let students worked and discussed all together on approach, physical examination and how to dealing with their situation under encourage and guide by all teachers for 1 hour. Next, presentations from each group for 15 minutes /groups were discussed all together. All students could share and learn how to dealing with all situations in multidisciplinary roles.
3. Formative assessment: by pre-test and post-test using MCQ and satisfaction score and evaluation after finish learning.

Results

All 35 students, eight 5th -year medical students, fourteen 3rd -year nurses students, five 5th year pharmacies students and eight 4th-year rehabilitation students were included in the study. Formative assessment was better in post-test than pre-test.

Satisfaction score was 4.57 (91.4%) especially improve relationship among multidisiplinary (4.7), understanding roles in patient care (4.6), problem solving need multidisciplinary opinion and cooperation (4.6), sharing improve communication skill (4.6), team working improve efficiency on working to improve quality of life of patients and families (4.6).

Conclusion

IPE in COPD is the good way to learning all modalities of chronic disease depend on which scenario is designed.

D1172

COMPARISON BETWEEN THE REAL AND POTENTIAL DROPOUT RATES AMONG MEDICAL STUDENTS AT KING SAUD UNIVERSITY, RIYADH, SAUDI ARABIA

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Background and Aims

The College of Medicine at King Saud University (KSU) has very restricted and high quality students' selection criteria, even though, some medical students still dropped out from the college. Very little has been investigated about such an important phenomenon locally. Therefore, this study was conducted to measure and compare the rates of actual and potential dropout. Also, to investigate factors that could be associated with withdrawal thoughts among medical students.

Methods

A cross-sectional study was conducted to measure the prevalence of actual and potential dropout among medical students at King Saud University, in the Kingdom of Saudi Arabia, in 2017-2018. The data on real withdrawal were collected from students' records from the Vise-Deanship of Academic Affairs. A self-administered questionnaire was distributed via e-mail to all medical students to measure the prevalence of dropout thoughts.

Results

A total number of 587 out of 1335 students filled the questionnaire with a response rate of 44%. More than half of them (51.4%) have thought of dropping out. Facing academic problems was the commonest reason behind thinking of withdrawal (37.8%). Majority of students with lower GPA mean have thought of withdrawal (p=0.042). The odds of governmental high school graduates contemplated dropping out is less by 34% than those from privates (OR=0.66, p=0.012).

According to the Academic Affairs record, only 9 out of the 1335 medical students have moved from the college during the academic year 2017-2018, with the prevalence rate of dropout of 0.7%. The male students' prevalence was 6(66%) and 3(33%) was the females'. The majority of them have left medical school during the first academic year of their medical school.

Conclusion

Although, the actual dropout among KSU medical students is very low in comparison to the high percentage of their potential thoughts. This phenomenon has to be studied well. Better academic guidance programmes could be implemented to detect symptomatic students and help supporting them, before actually dropping out.

D1173

A NOVEL, MULTI-MODALITY NEAR PEER TEACHING PROGRAMME: INTEGRATION OF LECTURES, OSCE AND SIMULATED WARD ROUNDS WITH STANDARDISED PATIENTS FOR FINAL YEAR MEDICAL STUDENT

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Background and Aims

The final year of medical school is a critical phase of medical education, where students take on advanced clinical responsibilities as part of the Student Internship Program (SIP) to prepare them for transition to become a junior doctor. This is widely recognised as the most challenging year of medical school with a steep learning curve. Our objective was to develop an effective near-peer teaching programme to equip final year medical students with fundamental communication skills and clinical knowledge prior to starting their SIP, to ensure preparedness for the wards. For this purpose, we organised a multi-modality teaching programme, with the use of Lectures, Objective Structured Clinical Examinations (OSCEs) and Simulated Ward Round (with standardised patients) stations. Although current literature evaluates different modalities of teaching in medical education in various contexts, there are lack of studies that evaluate methods of teaching in preparing medical students for sub-internship or internship. We sought to evaluate the perceived effectiveness of these different teaching modalities in our programme.

Methods

We organised a structured 2-day teaching programme comprising a series of didactic lectures followed by group-based OSCEs and Simulated Ward Round stations. The programme included a series of 8 lectures, 8 OSCE stations where students assumed roles as doctors with specific tasks and interacted with the examiner, and 8 simulated ward rounds where students had to interact with standardised patients. All lectures, OSCEs and Simulated Ward Round stations were delivered or facilitated by near-peer residents from the National University Health System. The common theme across all 3 teaching modalities were common scenarios faced by junior doctors in the wards, including clinical management and communication scenarios. Students were asked to complete a structured questionnaire upon completion of the programme.

Results

All of the participants felt that the programme was useful. 96% felt that the scenarios taught were directly relevant to their studies. There were improvements in perceived knowledge and confidence across all topics after the course. 84.2% of participants preferred a multi-modal approach over single modality teaching. The preferred mode of instruction varies in accordance to the different scenarios, with simulation stations preferred (66.1%) in the area of Communications and OSCEs (45.5%) preferred for Clinical Scenarios. 93% felt that near peer were able to communicate more effectively. All would recommend the workshop to their juniors and 98% indicated interest in contributing to the workshop upon graduation.

Conclusion

Near-peer multi-modaility training was found to be a viable and valuable method of instruction for final year medical students in improving perceived knowledge and instilling confidence prior to them embarking on their Student Internship Program (SIP). It shows good promise of continuity, with many of the participants inspired to contribute to future sessions.

`D1174`

USE OF LOCAL LANGUAGE IN SUMMATIVE EXAMINATIONS HELD IN ENGLISH MEDIUM MEDICAL EDUCATION

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Background and Aims

Hong Kong is the Special Administrative Region of China. Both Chinese and English are official languages. 88.9 % of the population are Cantonese speakers. There are Cantonese speakers who know more than one language but their proficiencies in these languages may be different.

The medium of instruction in many medical schools worldwide is primarily English. There are two medical schools in Hong Kong SAR and English is also used as the medium of instruction. However, in clinical practice in Hong Kong, common languages used include Cantonese, English and Putonghua (Mandarin). Patients' records, referral and reply letters to other doctors or health professionals are written in English. During presentation and discussion in ward rounds and clinical meetings, English is also used. However, not all patients and their relatives speak English. Many of them are Cantonese-speakers.

Strategies are in place to incorporate the use of Cantonese in summative examinations for local medical students and the Licensing Examination for non-local medical graduates.

Methods

There is set requirement in the standard of English for admission into Bachelor of Medicine and Bachelor of Surgery degree courses of the local medical schools in Hong Kong.

In the University of Hong Kong (HKU), many of the medical students have mastered Cantonese before entering the medical school. The rest may have time and opportunities to improve their Cantonese during the initial years of the course so that they can reach the basic competency level needed to understand and communicate with patients and their relatives when their clinical clerkships begin. In MBBS summative clinical examination of HKU, real patients are present and they may only speak in Cantonese. Students will then have to communicate with the patients in Cantonese during history taking and physical examination and communicate with the examiners in English. The written examinations are conducted in English.

Moreover, all medical graduates who wish to obtain full registration as medical practitioners in Hong Kong, with the exception of graduates of the two local medical schools (the University of Hong Kong and The Chinese University of Hong Kong), have to pass the Licensing Examination of the Medical Council of Hong Kong. Within the Licensing Examination, there is a written paper to test the candidate's proficiency in medical English with assessment in writing and comprehension skills. Candidates can indicate their choices to answer in Cantonese, Putonghua or English during the clinical examination when they submit their applications. If necessary, interpreters can provide translation for candidates when they interact with patients during the examination. This can facilitate candidates from mainland China and other parts of the world.

Results

Incorporating the use of Cantonese in summative examinations enables local Cantonese-speaking patients to participate in the examinations. As a result, the clinical examination setting can mimic the actual local working environment.

Conclusion

Multilingual format involving use of local language in summative examinations held in English medium medical education allows testing of candidates within a local context.

D1175

UTILISATION OF THE THEORY OF PLANNED BEHAVIOR TO CHARACTERISE MEDICAL STUDENTS' SLEEP INTENTIONS

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Background and Aims

Many medical students make a trade-off decision regarding sleep: study less and sleep more, or study more and sleep less. The factors that influence this decision-making process are poorly understood. We posited that the Theory of Planned Behaviour (TPB) could be used as a conceptual framework to better understand students' intentions toward achieving the recommended number of hours of sleep. Therefore, the purpose of this research was (a) to characterise sleep behaviours of Duke-NUS Medical (DNUS) students, and (b) to use the TPB to identify specific barriers associated with sleep intentions.

Methods

We first conducted a structured interview of a convenience sample of Duke-NUS Medical School students to identify potential factors contributing to students' sleep behaviours in alignment with elements of the TPB (attitudes, subjective norms, perceived control). Next, we collated that information to use as the basis for a questionnaire to obtain information about the prevalence of sleep related behaviours, and to identify barriers that are most associated with sleep intentions. We categorised students' sleep behaviours as "short-sleep" or "healthy-sleep" based on less or more than seven hours of sleep per night.

Results

A total of 113 students responded to the survey (approximately 50% of those eligible), of whom 55% were male. Ages ranged from 21-38 years, with 36%, 18%, 29%, and 17% coming from years of study 1 to 4, respectively.

Sleep Behaviours: Results indicated that, across class years, 80% of the students reported regular short-sleep behaviours, and no difference was noted between year of study. Coping behaviours for minimising daytime sleepiness such as napping were ubiquitous among all students (50% of students reported napping, and more than 65% of students reported using caffeine). Short-sleepers were more likely to need assistance to wake up in the morning compared to health-sleepers (p <0.01). Nearly all students reported some degree of daytime sleepiness, and about 65% of students described their sleepiness as "somewhat" of a problem for them to perform at their best. Short-sleepers were more likely to consider their sleepiness a problem (p = 0.035).

Sleep Intentions: Overall, students displayed positive attitudes towards the value of sleep, however, those attitudes did not correlate with their intent to achieve healthy-sleep in the next 10 days. Similarly, students' perceptions of how others' view their need for sleep (aka, "subjective norm") did not appear to associate with their intentions regarding sleep, either. In contrast, students' level of perceived behavioural control over their sleep behaviours correlated positively with their intentions for sleep. Specifically, those students who had higher ratings of perceived behavioural control (e.g., they felt there were fewer barriers and had more power over their sleep behaviour) reported a higher number of times that they expected to achieve healthy-sleep over the next 10 days.

Conclusion

The results of this study have yielded important results that are currently being used to develop an educational intervention toward improving sleep in medical students. Namely, this intervention will focus on improving students' perceptions of, and ability to, control the amount of sleep they achieve.

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D1176 **Teaching Primary Care Approach in a Patient with Multisystem Problems - Beyond the Clinical Diagnosis**
Rajeev Ramachandran, Singapore

D1177 **Effects of Lifestyle on Learning Motivation in Medical Students in Japan**
Maki Sato, Japan

D1178 **The Witness to the Power of Narrative Medicine - An Action Research for Adaptive Clinical Learning Experiences by a Final-Year Medical Student**
Jo Hsin Chao, Taiwan

D1179 **Empowering Non-Geneticist Health Professionals to Initiate Cancer Genetic Counseling and Testing Using a Tailored Education Program**
Samuel Ow Guan Wei, Singapore

D1180 **What Factors are Critical to Attracting NHS Foundation Doctors into Speciality or Core Training: A Discrete Choice Experiment**
Kim Walker, United Kingdom

D1181 **Usage of Cognitive Task Analysis on Development of Outcome Based Curriculum**
Battamir Ulanbayar, Mongolia

D1182 **The Use of Video in Prosection Practical Classes**
Lap Ki Chan, Hong Kong S.A.R.

D1176

TEACHING PRIMARY CARE APPROACH IN A PATIENT WITH MULTISYSTEM PROBLEMS - BEYOND THE CLINICAL DIAGNOSIS

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Background and Aims

In Family Medicine (FM) Residency Training Program, learning paediatric care is a major curriculum objective. In our program, this is taught through precepting FM residents doing clinic consultations, jointly by a Paediatrician faculty and a FM faculty.

Healthcare today tends to be fragmented into discrete initiatives focused on individual diseases or symptoms. This contributes to inefficiency, restricted access, and deprives patients of opportunities for comprehensive care. FM integrates a broad-spectrum approach to primary care with the consideration of social and community factors, while also serving as an advocate for the patient in an increasingly complex health care system. Unlike other narrowly focused subspecialties, FM includes biological, clinical, social and behavioural sciences, incorporating all ages, sexes, each organ system, and every disease entity. This will bring the balance back to health care, and puts families and communities at the centre of the health system.

The objective of this case based report is to highlight the potential for personal, comprehensive, and continuing care (which are the aims of FM as a discipline) in a patient with a complex disease.

Methods

A 1-year-old who was being followed up with neonatologist for growth monitoring, neurologist for microcephaly and gastroenterologist for constipation, was reviewed in the FM resident's weekly continuity clinic.

Results

This infant was reviewed by several subspecialists independently. The neonatologist was following up for failure to thrive. The height and weight centiles were < 3% and this did not improve with nutritional intervention. The neurologist was following up for microcephaly, and gastroenterologist was treating the patient for constipation. The FM resident, FM faculty, and Paediatric faculty examined the patient together and noted dysmorphic features in this patient. The prominent among them were microcephaly, broad thumbs and great toes. There were crowded teeth, micrognathia and other subtle facial features like low set ears, down slanting palpebral fissures and high arched palate. During the case discussion the faculties reviewed the multiple symptoms and tried to find a unifying diagnosis. The Paediatrician in the group recognized that microcephaly, broad thumbs and great toes are prominent features of Rubinstein-Taybi syndrome. FM faculty encouraged the resident to read about this condition and find out if the presentation of the patient matches with what is described in text books. This patient had many similarities with the Rubinstein-Taybi syndrome.

The importance of having a primary care physician in the management of multi-system diseases is recognised. Physician should not just recognise simple problems but be able to recognsie a patient with Rubenstein-Taybi syndrome. In this patient, there are potential benefits for personal, comprehensive, and continuing care. Although treatment is purely symptomatic, anticipatory follow-up and timely referral may be needed in the future.

Conclusion

A case of Rubinstein Taybi Syndrome is presented to highlight the potential benefits for personal, comprehensive, and continuing care. A comprehensive integrated healthcare model where primary care clinicians co-ordinate care with sub-specialists is more efficient and effective. This primary care approach training model for FM physicians provide guidance for future FM education programs. Teaching FM concepts could be initiated in all primary care medical specialties. FM competencies should be taught to medical students while promoting the establishment of appropriate FM practice in the society.

D1177

EFFECTS OF LIFESTYLE ON LEARNING MOTIVATION IN MEDICAL STUDENTS IN JAPAN

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Background and Aims

The rate of repeating same grade or dropping out has been increased in recent years in Japan. Those tendencies may be caused by lower learning motivation for study and/or not-adaptation to their students' life. Motivation research has studied in educational psychology in past decade in primary, secondary and college education. The motivated strategies for learning questionnaire (MSLQ) is a self-report instrument designed to assess college students' motivational orientations. MSLQ is based on a general cognitive view of motivation. The studies of learning motivation in medical students were limited. In this study, we examined the relation between learning motivation and life style such as food intake and sleep pattern in medical students.

Methods

Total number of 421 medical students participated in the present study. The questionnaire was all anonymous. The survey included that the learning motivation, daily food intake and sleep pattern. The relation among those items were compared and analysed.

Results

35.1% of students were analysed as the moderately evening type and the definitely evening type by the morning-evening questionnaire. Total number of evening type increased as the grade increased. Total sleep hours were 6 hours per day for 48.9% of students, even less than 5 hours per day for 15.7% of students. The rate of skipping breakfast were also increased in 4th grade for 41.2% of students. The frequency of breakfast and consumption of vegetable and milk production were correlated with learning motivation, though the sleep duration was not significantly correlated with learning motivation.

Conclusion

The students of morning type and taking breakfast showed the high learning motivation. The balanced food intake including vegetable and milk production could be also an important factor for improving learning motivation in students. However, further studies are needed to be concluded.

D1178

THE WITNESS TO THE POWER OF NARRATIVE MEDICINE - AN ACTION RESEARCH FOR ADAPTIVE CLINICAL LEARNING EXPERIENCES BY A FINAL-YEAR MEDICAL STUDENT

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Background and Aims

Medical students in their clinical years aim at the real practice of medical knowledge. They conduct history taking and physical examination to stretch a patient's clinical picture, which drives a diagnostic process to arrange sequential lab tests and imaging. By proper interpretation of the results, they give the possible diagnoses and an organized plan to reach the final diagnosis and treatment just as a professional physician. However, doctors or medical students tend to extract the necessary information from the patients to make a diagnosis, giving less time to the stories of patients and their family. Narrative medicine, taking patients as human with unique stories, is dedicated to promote authentic patient-centred healthcare.

Methods

One final-year medical student in Tzu Chi University in Taiwan, was the researcher who intended to solve the problem in her clinical learning experience and assess the outcome of the action plan based on the concept of action research. Following the principles of narrative medicine, the student acknowledged, absorbed and responded to the plights of the patient and their family by interviewing. Data was collected by reflective writing after the interview, and the outcome of the action was presented with the lesson learned from the experience and the impact on the the patient, the family and the student.

Results

There was one 101-year-old female patient with senile dementia and irreversible pancreatic cancer. Her second daughter rejected hospice because she took it as doing nothing and waiting for death, even after repeated explanations. The student in the medical team invited her to an interview so as to clarify the caregiver's expectations. The daughter firstly hesitated but revealed her difficulties that she was edged out by all her siblings during the conversation. When her mother turned ill, all her siblings dodged the duty of looking after their mother except her. Lonely and helpless, she still strove to provide the best care for her beloved mother. At the thought of those hard days, she burst into tears uncontrollably. The medical student kept listening and patted the daughter's hand as emotional support. The next day, the daughter unexpectedly changed her mind to accept hospice, and the patient peacefully came to the end of her life four day later. As the witness to the power of story-telling, the medical student realised that the narratives of patients or their family can be the key to their medical decisions which can render the result better or worse. The experience also reminded her to value the stories told by patients and their family as a patient-centred healthcare provider now and in the future.

Conclusion

One final-year medical student implemented the principles of narrative medicine to tackle a problem in her clinical learning experience with an action research. Reflecting on the experience of listening to the story of a caregiver, she realised that the narratives of the patients of their family can be the key to their medical decisions, which reminded her to value the stories told by patients and their families as a patient-centred healthcare provider.

D1179

EMPOWERING NON-GENETICIST HEALTH PROFESSIONALS TO INITIATE CANCER GENETIC COUNSELING AND TESTING USING A TAILORED EDUCATION PROGRAM

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Background and Aims

Germline genetic testing (GT) for mutations in BRCA1/2 and Mismatch Repair Genes are now indicated in patients suspected to have Hereditary Breast, Ovarian and Endometrial Cancers. Initiation of GT by non-geneticist providers has been shown to facilitate uptake of testing, but gaps in their cancer genetics (CG) knowledge is a barrier to implementation. A CG education program was designed with the aim of improving GT access to patients in a tertiary cancer centre in Asia.

Methods

The CG education program comprised of a half-day workshop of didactic lectures covering basics of CG and role of GT in breast and gynecological cancers, introduction of a workflow for decentralised GT, a hands-on session in pedigree construction and mock genetic counseling (GC), and 2 practical sessions with actual patient interaction and counseling at our center's CG Clinic over a 3-month period (April-June 2018). The pilot group of participants (n=6) comprised of 4 breast surgeons, 1 gynecologic-oncologist and 1 advance practice nurse. Pre- and post-workshop surveys using a 4-point Likert Scale and a 20-question Multiple Choice Questionnaire (MCQ) test were administered to assess participants' knowledge and readiness to initiate GT in clinical practice.

Results

Of the 6 participants, none had prior training in CG. The main objectives for attending the program were to learn to provide GC (100%) and initiate GT (83.3%). 1/6 (16.7%) had prior experience with GC/GT in clinical practice but did not refer probands to a CG Clinic for formal counselling. Pre-workshop survey showed 100% were Comfortable (C) / Very Comfortable (VC) in identifying patients for GC; 50% were C/VC in initiating GT and only 33.3% were C/VC in interpreting test results. Upon completion of the program, 5/6 participants scored >80% in the MCQ test (mean 85.8%, range 55-100). Post-workshop survey showed 100% were now C/VC in initiating GT and interpreting results, with 80% C/VC in providing GT independently from a formal CG Clinic. 4/6 (66.7%) felt they currently have the support to incorporate GC in their practice, of which all (4/4) will refer probands with pathogenic mutations based on the new workflow to the CG Clinic for formal post-test counselling. The program was well received with 100% stating that the course met their objectives and they would recommend it to their peers. 3/6 (50%) commented that more practical sessions on GC would be beneficial.

Conclusion

A tailored education program incorporating a workflow for non-geneticist health professionals is useful in empowering them with skills to identifying patients with Hereditary Breast, Ovarian and Endometrial Cancers and initiating GC/GT. We aim to train a larger core of healthcare providers to improve patient access to GT and facilitate post-test counselling.

WHAT FACTORS ARE CRITICAL TO ATTRACTING NHS FOUNDATION DOCTORS INTO SPECIALITY OR CORE TRAINING: A DISCRETE CHOICE EXPERIMENT

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Background and Aims

Accurately predicting medical workforce supply is increasing challenging. Doctors no longer behave in time-recognised ways in terms of career decision making, and their behaviour no longer fits with service need. The research indicates multiple personal and work-related factors influence medical trainee careers decision making. However, the relative value of these diverse factors is under-researched, yet this intelligence is crucially important for informing medical workforce planning, and retention and recruitment policies. Our aim was to investigate the relative value of UK doctors' preferences for different training post characteristics during the time period when they either apply for speciality or core training, or take time out.

Methods

We developed a discrete choice experiment (DCE: Ryan M, Gerard K, Amaya-Amaya M. Using Discrete choice experiments to value health and Health care, Vol.11. Dordrecht, The Netherlands: Springer 2008) specifically for this population. To ensure best practice for the DCE4, multiple approaches were undertaken to identify the characteristics including: interviewing foundation doctors and attending deanery teaching sessions. The DCE was distributed to all second year Foundation Programme doctors (F2s) across Scotland as part of the National Career Destination Survey in June 2016. The DCE was used to establish the key attributes that influence the career decision making of F2 doctors. The main outcome measure was the monetary value of training-post characteristics, based on willingness to forgo additional potential income and willingness to accept extra income for a change in each job characteristic calculated from regression coefficients.

Results

677 out of a possible 798 F2 doctors provided usable DCE responses. Location was the most influential characteristic of a training position, followed closely by supportive culture and then working conditions. F2 doctors would need to be compensated by an additional 45.75% above potential earnings to move from a post in a desirable location to one in an undesirable location. Doctors who applied for a training post placed less value on supportive culture and excellent working conditions than those who did not apply. F2 males valued Location and a supportive culture less than female F2s.

Conclusion

This is the first study focusing on the career decision making of UK doctors at a critical careers decision-making point. Both location and specific job-related attributes are highly valued by F2 doctors when deciding their future. This intelligence can inform workforce policy to focus their efforts in terms of making training posts attractive to this group of doctors to enhance recruitment and retention. Overall, establishing what trainees value most could help to establish the best training methods and the optimal working and learning environments for the global workforce.

USAGE OF COGNITIVE TASK ANALYSIS ON DEVELOPMENT OF OUTCOME BASED CURRICULUM

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Background and Aims

Objective of developing an outcome based curriculum in higher education is included in the master plan of The Mongolian Government 2016-2020. The most of higher education institutions in Mongolia have defined competency frameworks for professions in accordance with this objective. Then it is crucial to transfer contents included in competency frameworks for professions to curricula and syllabi. The first step in the design of any instruction is a task analysis to determine what should be taught. On the other hand, we need to analyse on tasks (EPA) that would be performed at the work place by graduates. Task analysis is not being used in Mongolian educational system to design and develop curricula, especially branch schools of Mongolian National University of Medical Science, which is the main study setting. We aimed to use cognitive tasks analysis for curriculum development by identifying the contents of a task which should be mastered by lab technicians to use in practice.

Methods

Focus group interviews were conducted for analysing the task. We chose students who were learning in the third course of medical lab technician curriculum and the task to count blood cell (which is the main part of day to day work of lab technicians) for task analysis. A new teaching and learning program to teach the task was developed and the students who followed this program were used as the intervention group. Traditional syllabus was used to teach the task for control group. Average academic success of students in each group was compared (independent T test) and satisfaction of them was evaluated by Likert 5 point scale with a specially developed questionnaire.

Results

30 students divided equally into the two groups in 3rd course of lab technician (mean age 21.1 ± 1.5 female 86.7%, male 13.3%) and 2 teachers who taught them participated in the study. According to the results of cognitive task analysis, suitable steps to perform the task were detected and most of students made mistakes on the steps of choosing volume of diluents and calculating results because they did not know the formula or applied it in the wrong way. Students and teachers said that mistakes were due to some equipment missing or being replaced by others. Then we procured these equipment for improving clinical skills of the students and taught them more math skills in a new plan to teach the task. In the traditional group, 4 (26.7%) students knew about the task, 5 (33.4%) knew how to do, 5 (33.4%) showed how to do and 1(6.7%) of them was an expert. In the intervention group, 2 (13.3%) students knew about the task, 3 (20%) knew how to do, 7 (46.6%) showed how to do and 3 (20%) of them were experts of CTA (p value 0.01). The satisfaction of the students in the intervention group was high (mean 4.1 ± 0.8).

Conclusion

We conclude cognitive task analysis could influence the training and competency of learners positively.

D1182

THE USE OF VIDEO IN PROSECTION PRACTICAL CLASSES

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Background and Aims

One common format of running anatomical practical classes is to organise finely dissected (prosected) specimens into stations in the laboratory, and students move from one station to another, often assisted by a laboratory manual. Typically, a few teachers are present to help students learn. However, with increasing student numbers in medical and other health professions, the relatively few teachers may not be able to help all students.

Methods

Short videos, usually less than 90 seconds each, were produced to accompany each of the stations in prosection practical classes of anatomy, demonstrating the key anatomical features of specimens. At each station, a tablet computer repeatedly played that station's video throughout the classes. A pilot run was conducted in a prosection class for first-year dental students on "Muscles of Facial Expression and Mastication", consisting of seven stations. A cross randomised control study was conducted to examine the impact of the use of these videos on student learning, with ethics approval sought from the local Institutional Review Board. Student participation was voluntary. Students (n = 52) were randomly assigned to two groups, one studied three stations, and the other studied the remaining four. All stations were supported with videos. At 30 minutes, students in both groups were invited to answer identification multiple-choice questions covering those stations that they just studied, followed by a questionnaire on their learning experience. The two groups then swapped places to study those stations they did not, except this time, all stations were without videos. After another 30 minutes, students were again invited to answer identification multiple-choice questions covering only the new stations they just studied, followed by a questionnaire on comparing their learning experience with and without video support. In the rest of the class, students could access all stations with video support. The two teachers and four teaching assistants were divided between the two groups and swapped group in the middle of the two 30-minute sessions (ie at 15 minutes), so as to ensure equal exposure to both groups of students.

Results

Student scores for the 4 stations were 82.2% with video and 77.7% without video (p value of t-test = 0.35). For the other 3 stations, student scores were 69.6% with video and 61.7% without video (p value of t-test = 0.23).

Conclusion

The pilot did not demonstrate statistical difference in student score between those who had access to learn through the videos and those with no access to video, in a prosection practical class for dental students with seven stations. Further studies are needed to explore the impact of such videos on student learning when there are more stations and more students relative to the number of teachers.

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D1183

RELIABILITY STUDY OF AN ASSESSMENT TOOL FOR DIAGNOSTIC REASONING USING CASE PRESENTATIONS IN A DAILY PRACTICE SETTING

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Background and Aims

The concept of work-based assessment (WBA), the highest level in Miller's pyramid, has stimulated production of relevant and important tools for "Assessment for learning" in clinical training settings. The mini-Clinical Evaluation Exercise (mini-CEX) is one of the most popular WBAs, yet it takes 15-20 minutes to complete the assessment tool for a rater to observe each trainee during the whole medical examination. The Vague, Structured, Organised, and Pertinent (VSOP) model was developed as a WBA tool to assess diagnostic reasoning by listening to case presentations, mainly in outpatient settings. The VSOP model would be shorter than mini-CEX, because it is used only after a trainee's consultation, similar to the one-minute preceptor approach. However, the VSOP model currently lacks validity evidence supporting internal structure and reliability. The aim of this study is to evaluate the reliability of the VSOP model in a daily practice setting.

Methods

This study was conducted at the Department of General Medicine in Saku Central Hospital Japan between October and December in 2016. In the study period, seven residents in postgraduate year 1 or 2 were asked to voluntarily participate in the study and independently saw walk-in outpatient cases as usual. The predetermined two raters including the author listened to their presentations, asked several questions, and assessed each resident using the VSOP model. Such precepting session was conducted among one resident and two raters but those raters marked the resident independently. Residents saw only cases with any new problem(s) and follow-up or referral cases were excluded. Before the actual assessments, the raters took part in a training session. We checked the median time from a trainee's presentation to assessment by VSOP model. Unbalanced design generalisability (G) study was used with two-facets of rater (r) and cases (c) and calculated phi coefficient. Since residents (person: p) were crossed with raters and cases were nested with persons, the design was expressed as (p : c) * r. A decision study estimated the numbers of presentations and raters to achieve certain levels of phi coefficients.

Results

38 presentations were performed during study periods and the number of presentations by residents ranged from two to thirteen. The median time from a trainee's presentation to assessment was 5.5minutes. The phi coefficient with one rater and one case was 0.208 in this study. In the decision study to achieve a phi coefficient over 0.8, 13 cases with two raters or 22 cases with one rater were needed. To achieve a phi coefficient over 0.7, 7 cases with two raters or 11 cases with one rater were sufficient.

Conclusion

We confirmed that 0.7 or 0.8 levels of reliability with the VSOP model are feasible and can be achieved in daily practice setup. In addition, raters did not take as much time as the mini-CEX. The VSOP model may be the most time-efficient WBA tool for diagnostic reasoning and able to be used for summative purpose. Because this study was conducted at single healthcare centre, further multicentre study is warranted.

ITEM ANALYSIS OF GRADUATES EXIT EXAMINATIONS AND MEDICAL LICENSING EXAMINATION OF GRADUATES IN MONGOLIA

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Background and Aims
Medical licensing examination was introduced in Mongolia since 1999. Medical school graduates are required to qualify medical licensing examination for clinical practice. Recent statistics reveal medical licensing examination success rate has decreased significantly for last few years, although medical school graduation rate remain stable. Studies lack explaining the associations and causes for such trend. This study aims to define the gap between Graduates Exit Examinations and Medical Licensing Examination in Mongolia.

Methods
Employing a cross sectional study design, a descriptive analysis of all tests (n=6050) with 49 versions that have been used for Graduates Exit Examinations (n=3591 subjects) was used. Data were collected from Mongolian National University of Medical Sciences (MNUMS), Ach Medical University, Etugen University and for National Medical Licensing Examinations (n=3550 subjects) run by Centre for Health Development between 2011 and 2016. The quantitative analysis involves identifying difficulty index for new graduates. Difficulty index is commonly used parameter for item analysis in MCQ examination. Ideally these should remain between 60-65%, and more than 90 indicates excess difficulty level; while below 30 is too weak. We mainly used a linear correlation analysis.

Results
Medical licensing examination passing rate was highest from MNUMS (65%), followed by Ach Medical University (36%) and Etugen University (41%) in overall statistics from 2011 to 2016. Excess difficulty tests were reported in internal medicine quizzes in all three institutions graduates 42%, 59%, and 34%, respectively. Quizzes in paediatrics field were reported as the most weak in all three institutions. Linear correlation analysis revealed strong correlation between exit knowledge examination and medical licensing examination from all institutions (p<0.001).

Conclusion
We have observed significant difference between institutions in passing rate of medical licensing examination. In difficulty analysis we have identified most difficult tests were from internal medicine field, where institutions and governing body should address to minimise this gap. This gap may have resulted from insufficient coverage of internal medicine in undergraduate programs in Mongolia. Furthermore item analysis should concern validity of MCQs in internal medicine, as well. Strong correlation of graduates medical licensing procedure in Mongolia reveals fairness and optimality. In further studies we will analyse the items ranging in the difficulty level between 60 to 65%.

DIFFERENCES BETWEEN PROFESSORS AND STUDENTS' PERCEPTION ABOUT DOCTORS WORKING IN OTHER FIELDS OTHER THAN PHYSICIAN

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Background and Aims
There is an increasing need for social and personal needs for doctors to enter various fields. Therefore, the importance of career education in medical schools is increasing. The goal of this study is to compare the difference of perceptions of medical professors and students about the doctors entering other fields other than the profession as a clinician.

Methods
We surveyed the questionnaires to see how medical professors and medical students think about doctors have occupations in other fields except the physician. In addition, we examined what programs should be offered in medical education in order to develop career awareness in other fields except physician. The professors participating in the questionnaire were 45 students in one medical school and the students were 694 students in 2 medical schools. Frequency analysis and crossover analysis were conducted to analyse the survey results.

Results
The results showed that there were differences between students and professors in the number of physicians in Korea, the need of physicians to enter other fields, the desired occupations in other fields, the promising occupations, and the considerations in entering other fields. There was no difference in perception that both professors and students needed career education that allowed medical students to enter other fields.

Conclusion
The results of this study are expected to provide meaningful information to medical students who want to enter into various fields and provide basic data for improvement of career education course in medical school.

A BASIC OPTOMETRY SCREENING SHORT COURSE FOR INTERPROFESSIONAL HEALTHCARE PROVIDERS

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Background and Aims

A Faculty of Health Sciences established a rural, primary healthcare, Interprofessional Community Based Education platform in collaboration with various partners. The purpose of this platform is to promote collaborative healthcare practices that stimulates competency development and provides essential healthcare services to marginalised communities. Through a scholarship of engagement this learning platform additionally facilitates competency development of local professional healthcare providers.

In South Africa rural communities experience great difficulty to access healthcare services and due to the prioritisation of services based on urgent needs. Optometry services are one of the services not catered for in most rural areas.

The aim of this study was to evaluate the effectiveness of a basic optometry screening short learning programme for interprofessional healthcare providers.

Methods

An qualitative, action research approach was used to develop and evaluated a short learning programme specifically developed for non-optometry healthcare providers. Various teaching and learning approaches including formal lectures, demonstration, case studies and videos were created to expose different health professions' students to a variety of eye screening tests. Students had the opportunity to apply what they have learned in schools, clinics and during home visits. The feedback from health professions' students were used to enhance the course to thereby create relevance and ease of learning. The programme was rolled out to professional healthcare providers based at local clinics. This included a one day contact session with assessment that was followed by application of competency at a district hospital and the creation of a portfolio of screenings. Health professions' students (n=12) and professional healthcare providers (n= 15) participated in two focus groups that aimed to evaluate the effectiveness of a basic optometry screening short learning programme.

Results

The findings of the focus groups indicated that the structure of the short learning programme enabled psychomotor development through demonstration, simulation and application of knowledge. Cognitive learning was achieved through theoretical session activities such as video analysis and case studies. The use of formative assessment (case studies, OSCEs and clinical portfolio of screenings) which includes constant feedback assisted in closing the circle of learning.

Conclusion

The finding of the study illustrate the importance of giving health professionals a voice in their learning. It also indicates that a mixture of teaching, learning and assessment approaches that promotes deep learning, interaction with peers and clinical mentorship allows for flexible learning opportunities catering for different healthcare professionals.

STRESS AT THE FIRST YEAR MEDICAL STUDENTS: STRESSORS AND COPING METHODS BASED ON STUDENTS' PERCEPTION

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Background and Aims

The transition period of someone from high school to become a new university student may cause stress. Research shows that stress may cause somatic and emotional symptoms that negatively affect academic achievement. The objective of this study is to identify stress in the first year students, to explore the cause of their stress along with methods that they use to deal with stress.

Methods

This is a cross-sectional study. Ninety nine students enrolled in this study, obtained by total sampling method. The data were collected by using a Depression, Anxiety and Stress Scales (DASS-42) questionnaire.

Results

This study showed that most of the first year students had mild stress level (56.6%), while the rest have normal, moderate and severe stress level (32.3%, 9.1% and 1% respectively). About 1% subjects had extremely severe stress level. The highest percentage of stressor came from the assignments given to the students (49.6%). In contrast, school-to-family distance has the lowest percentage (2.3%). Students dealt with their stress with various activities. Based on students' perception, time management (24.4%) was the best method to cope with their stress. A fewer number of students believed that they have to wake up early (2.2%) to take their food as a way of decreasing their stress.

Conclusion

Most students feel stressful in their first year in medical education due to several reasons and adopt different ways to deal with the stressors.

D1188

MODIFIED ESSAY QUESTION AS AN INSTRUMENT ASSESSING IMPROVEMENT OF COGNITIVE COMPETENCIES IN THE COURSES OF HEALTH AND DISEASE OF ADULTS AND ELDERLY FOR THE 4TH YEAR AND 5TH YEAR MEDICAL STUDENTS AT PRINCE OF SONGKLA UNIVERSITY

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Background and Aims

Modified essay question (MEQ) is a useful instrument designed to assess medical students' cognitive competencies. Use of various real clinical problems raises validity of test. Area of clinical weaknesses for individuals can be identified to improve their abilities. At the end of the courses of Health and Disease of Adults and Elderly of year 4 and year 5 medical students at Faculty of Medicine, Prince of Songkla University, MEQ was one of tools using for measurement of their various cognitive skills. This study aims to determine the reliability of MEQs and to evaluate improvement of cognitive competencies using MEQ for year 4 and year 5 students.

Methods

Retrospective analysis of MEQ scores of year 4 and year 5 medical students of the same batch was conducted. There were 3 rotations of 44-45 students for year 4 and 8 rotations of 17-20 students for year 5. Total numbers of items ranged 24-54 for the 4th year students and ranged 32-42 for the 5th year students. They were categorised into 8 cognitive competencies: problem identification, data gathering, hypothesis generation, data interpretation, clinical reasoning, patient management, patient education and basic knowledge. Each competency score was compared between the 4th year and the 5th year students to determine their improvement.

Results

The internal reliability (Cronbach's alpha) of MEQ ranged 0.423-0.698 for the 4th year students and ranged 0.538-0.820 for 5th year students. The scores of the 5th year students were significantly higher than of the 4th year students in problem identification (71.7% vs 45.0%, p=0.000), data gathering (67.0% vs 58.2%, p=0.000), hypothesis generation (68.0% vs 58.6%, p=0.000), clinical reasoning (63.8% vs 42.8%, p=0.000), and patient education (56.7% vs 46.0%, p=0.000). However, their scores were not significant different in data interpretation (61.5% vs 59.9%, p=0.420), patient management (60.6% vs 58.2%, p=0.070), and basic knowledge (60.8% vs 60.5%, p=0.846).

Conclusion

The reliability of MEQ was mostly acceptable in our study. More items of questions will give more reliability of the test. MEQ can be used to assess students' clinical cognitive competencies, to identify their weaknesses and to provide feedback. It is also used to monitor progression of their abilities. Blueprinting

D1189

PERCEPTIONS OF CHARACTERISTICS OF EFFECTIVE CLINICAL TEACHERS AMONG MEDICAL STUDENTS AND RESIDENTS IN AN ASIAN HEALTHCARE SETTING

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Background and Aims

Almost all published literature on effective clinical teachers were from western countries and only two compared medical students with residents.

The purpose of this qualitative study is to explore the perceived characteristics of effective clinical teachers among medical students compared to residents graduating from an Asian medical school, and specifically whether there is a difference between the cognitive and non-cognitive domain skills, to inform faculty development.

Methods

This study was conducted at the National University Health System (NUHS), Singapore. Using a pragmatic qualitative research design, maximal variation sampling of six final year undergraduate medical students at the Yong Loo Lin School of Medicine, National University of Singapore, and six residents from the NUHS Residency programme, was done. Semi-structured one-on-one interviews using open-ended questions were audiotaped and transcribed whereby participants were asked to reflect their own learning journey from first exposure to clinical medicine in year 3 of medical school (M3) for the students, and to residency for the residents. Analysis was done using a three step approach based on Grounded Theory principles

Results

Medical students valued a more didactic spoon-feeding type of teacher in their earlier clinical years. In contrast, final year medical students and residents valued feedback, supervision and role-modelling at clinical practice. The top two characteristics of approachability and passion for teaching are in the non-cognitive domains. These seem foundational and lead to the acquisition of effective teaching skills such as the ability to simplify complex concepts and creating a conducive learning environment. Beyond baseline clinical competence identified by both students and residents, the students valued clinical teachers possessing the interests and attributes of wanting to teach rather than excellent top clinicians who are not approachable. However, the residents were willing to accept less 'warm' teachers if they are able to learn advanced clinical skills from them, particularly in the procedural specialties. Being "exam-oriented" is a new characteristic that has not been identified before in "Western-dominated" publications.

The results support Jonassen's theory of constructivism (1991) as seen by the medical students at M3 wanting more didactic teaching to 'spoon-feed' them with medical knowledge. The more senior learners value self-directed learning and feedback to help them deal with more complex ill-defined problems encountered during their daily clinical work. Being "exam-oriented" is not surprising because Asian students tend to strive for success and to rank as among top achievers in an examination. Moreover, in a small and meritocratic country like Singapore, doing well in exams is seen as a tried and tested way of securing a good future.

Conclusion

There are differences in the perceptions of effective clinical teachers between medical students and residents. Medical training institutions should look for clinically competent teachers with foundational non-cognitive domain skills such as approachability and passion for teaching first before developing their cognitive domain skills further to make them effective teachers.