

A cross sectional survey of 3rd year undergraduate medical students' perception of a 'Community Oriented' multifaceted learning approach in the Special Studies Module SSM 3

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Abstract

Introduction: With the growing trend and importance towards producing holistically groomed medical graduates as discussed in 'Tomorrow's Doctors', we introduced a community oriented Special Study Module 3 (SSM3) in the Year 3 undergraduate medicine program in the Institute of Health Sciences, Universiti Brunei Darussalam. This module incorporates the principles of Community Oriented Medical Education (COME) to facilitate Holistic development and Team-based learning.

Method: A descriptive cross sectional survey design using a self- designed 18 item questionnaire to explore the overall organization, benefits and skills learnt from this module, was sent to the emails of all students in the three cohorts. Questionnaire was piloted on a small group of nursing students who accomplished a community based project. Cronbach's Alpha analysis was done to establish the reliability of survey.

Result: Questionnaire was sent to 47 students and got a 74% response rate. Most of the students found the project very interesting and useful in learning various skills and enhancing self-development. Cronbach's Alpha of more than 0.70 suggested strong internal reliability. Discussion: Students perception strongly suggests that all the objectives of SSM3 module have been achieved. This approach facilitated multifaceted learning including leadership, teamwork, communication skills, managerial and organizational skills by working with the community members to identify and address their health risks.

Conclusion: Community oriented medical education approach can be used to enhance multifaceted learning in real life environment as small group students led projects.

Keywords: *Undergraduate Medical Education; Community Oriented Medical Education; Holistic Health Professionals*

Practice Highlights

- Community Oriented Medical Education (COME) approach is useful in enhancing multifaceted learning in undergraduate medical students if applied properly.
- Students value activities that let them know more about community and its health related issues.
- Students perceive that small group student led field projects are beneficial in developing teamwork, communication and organizational skills.
- Time allocated and credits awarded for modules should match with the workload and the intended impact.
- COME can be used in a wider scope such as to promote IPE, sustainable health promotion in communities, community engagement towards healthy living.

I. INTRODUCTION

In order to produce holistically groomed medical graduates as described in Tomorrow's Doctors (General Medical Council Education Committee, 2009), medical curriculum needs to provide a teaching environment where students get the opportunity for multifaceted learning. In addition, Declaration of Alma-Ata (1978) released in International Conference on Primary Health Care identified the role of primary health care in promoting health for all, demands undergraduate medical students to be exposed to community so they can understand various non-biological determinants of health in addition to biological and therefore can contribute in preventive medicine practices as part of primary health care team. NHS also recommends increasing community oriented undergraduate medical education to increase the understanding of patients' needs that may promote a more holistic medical practice (Habbick & Leeder, 1996; Schroeder, Zones & Showstack, 1989). Health organizations and policy makers have realized the need of moving medical education focus from the patient to the community, along with developing educational programs designed to measure and improve the health of the community (General Medical Council Education Committee, 2009; Henderson, 1989; World Health Organization, 1987).

Literature describes some instances of the use of educational approaches applied in community settings to teach social and environmental determinants of health (Davison et al., 1999; Kirk, 1994; Kisil & Chaves, 1994; Kulig & Wilde, 1996; McKnight & Van Dover, 1994).

In view of the current trends and demands of medical education in 21st century, we reviewed our modules and changed one of the Special Study Modules. During their first three years of medical education in the university, students are well supported to take three Special Study Modules (SSM) one in each year namely SSM 1, SSM 2 and SSM 3. We introduced a COMMUNITY ORIENTED multifaceted learning approach as Special Study Module 3 (SSM3), in the third year of our under-graduate medicine program. This module incorporates the principles of Community Oriented Medical Education (COME) where in addition to students, the teachers, members of the community, and representatives of other government and non-government sectors are actively involved throughout the educational process.

COME is an education which is 'focused on population groups and individual persons taking into account the health needs of the community concerned' (Schmidt, 1991; World Health Organization, 2011). It is different from Community-based learning activity, where learning takes place in some primary or secondary health care facility in the community. Learning activities taken place

in tertiary care settings like hospitals or large scale specialized medical facilities are not considered as community-based activities (World Health Organisation, 1987). The major difference between these two approaches is that in Community-based education learning activities take place in a particular setting in the community but these activities may or may not be directly relevant to that particular community health needs (Magzoub & Schmidt, 2000). While Community oriented education refers to learning activities that have direct relevance with regard to the priority health problems of that particular community (Hamad, 1991).

This SSM 3 module is based on developing projects that requires community involvement in participating in the planning, organization, operation and control of primary health care as highlighted in Declaration of Alma-Ata (1978). The module incorporate many important concepts that already have set the trend in medical education all around the world for example,

1. Holistic healthcare to cover not only the biological aspects but also the psychological, social and spiritual aspects of health and illness.
2. Team-based learning and practice, Inter-professional education is gaining popularity in most of the medical education institutions and it is believed that working as a team enhances performances and patient care.
3. Social Determinants of Health (SDH), World health organization (WHO) and Centres for disease control and prevention (CDC) has recognized various social determinants of health and understanding of these determinants is crucial for a holistic healthcare provider.
4. Transforming 'Theory into Practice', according to Bloom's taxonomy the higher levels of learning need application, analysis, synthesis and evaluation and students should be able to apply all their knowledge and learning into real life situations.

The main objectives of this module include:

- To identify health related issues associated with various social and non-biological determinants of health.
- To be able to analyse health status or a health related problem in a community.
- To plan a solution for the problems with the involvement of relevant community, government and/or non-governmental agencies
- To demonstrate leadership, teamwork and management skills
- To develop community oriented approach to healthy living and preventive medicine

The module contains a team-based, small group, student-centred approach to undertake group projects developed by students with consultation of supervisors and finally approved by SSM 3 committee.

Students are given protected time of 6 weeks in semester 1 of year 3 to complete this module. They explore available material, resources, and literature to understand the background of relevant health issues and their importance. The possible issues may be related to (though not limited to) healthy life-style, environmental pollution/hazards, and belief, culture, knowledge, attitudes and practice of community related to health. Students, as a group, implement the project in a selected community with consultation and full involvement of the community and its leaders. The health issues or problems are identified, analysed, and the group plan and carry out an appropriate intervention with the full involvement of community. At the end, students write a project report and present their experience and intervention to share what they have learnt during the project. Two assessors assessed report, presentation and the expected impact of intervention. Each project report is assessed on pre-set criteria. Marks are awarded as:

- a) Group Marks (Written project report & oral Presentation) -- 50% and
 - b) Individual Marks (Peer assessment and 2 SSM3 committee members assessment based on information from 2 community representatives) – 50%.
- The purpose of this survey was to assess the overall organization and benefits obtained from SSM3 module.

II. METHODS

A descriptive cross sectional survey was designed to get perception from the three cohorts of medical undergraduates, who had undergone this new module and completed it successfully, by reflecting on their experiences about the effectiveness of this student-led learning experience. Survey included a self- designed 18 item questionnaire to explore the effectiveness, benefits and overall organization of SSM3 module using a 5 point Likert scale response option from 1 = 'Strongly disagree' to 5 = 'Strongly agree'. Items 1 to 9, 11, 15 and 18 explore the overall organization of SSM3 module while items 10, 12, 13, 14, 16 and 17 explore the perceived benefits and skills learnt. Cronbach's Alpha analysis was done to establish internal reliability for these two sets of items. Items 19 and 20 explore any other learning experiences and suggestions to improve this module. Face and content validity was maintained by carefully selecting the questions to cover the area of interest.

Questionnaire was piloted on a small group of nursing students who accomplished a community based project to confirm the clarity of questions. It was sent via email to all students in the three cohorts including a reminder email

2 weeks later. The survey was uploaded on a free online software available in public domain and answers were collected anonymously. Students were informed about the voluntary nature of participation. Completion and submission of the form indicated their consent for participating in this survey. Ethical approval was not needed as this activity is part of routine module and course evaluation based on students' feedback.

III. RESULTS

Questionnaire was sent to 47 students, 35 of them responded with completed surveys (74% response rate). Some students sent incomplete forms and few could not submit the survey online and sent their response in word document format. These incomplete and word format responses were not included in the analysis because of missing data and lack of anonymity which can influence the validity and reliability. For open questions, 21 responded for question 19 and 19 responded for question 20.

IBM SPSS Statistics version 21 was used to do descriptive analysis of responses in the form of frequency distribution and to establish the internal reliability by Cronbach's Alpha analysis (Tables 1 and 2). Based on SPSS analysis, a Microsoft Excel Worksheet was created to show the summary of all results. Responses to items 1 to 18 are summarized in Table 3 as percentage distribution of responses for each item. Question 19 and 20 were analysed manually for the emerging themes and are summarised in Table 4.

Cronbach's Alpha for the set of questions to assess overall organization of SSM3 module (Q1 – 9, 11, 15 and 18) is .974 (Table 1) and for set of questions assessing benefits and skills learnt (Q10, 12,13,14,16 and 17) .968 (Table 2). Both values are more than .70 and indicate strong internal consistency in terms of items under each set. This can be interpreted as having good internal reliability for the survey.

More than 90% students replied as 'agree' or 'strongly agree' for 15 out of 18 questions while for the remaining 3 questions the responses were: 'the learning objectives for the SSM 3 COMMUNITY OUTREACH PROGRAMME projects were clear' (87.5%), 'the time allocated for the project was sufficient to complete it' (76.4%) and 'the credits earned for the project equates the time spent to complete it' (57%).

The highest response rate for 'strongly agree' option include questions about team working e.g. 'Good Team work is necessary for the project completion' (76.4%) and 'the project is a good tool to learn and enhance team building skills' (76.4%).

The response 'strongly disagree' was selected for only one question on 'Project ideas were solely generated by students' (2.1%). Similarly, the response 'disagree' was selected for one question on 'The credits earned for the project equates the time spent to complete it' (10.4). This question also has the lowest agreement with a cumulative percentage for 'agree' and 'strongly agree' as 57%.

There were 4 questions where students were very decisive and didn't select 'neither agree nor disagree' option e.g. 'Good Team work is necessary for the project completion', 'the project is a good tool to learn and enhance team building skills', 'the project is a good tool to learn and enhance organizing skills' and 'conducting the project is a worthwhile personal experience'. In all

these 4 questions the cumulative percentage for responses as 'agree' and 'strongly agree' was 100%.

For question 19, the most frequent themes emerged were communication skills (07), teamwork and managerial skills (05) and community knowledge (04). Students also mentioned about learning other skills as shown in Table 4. For question 20, majority suggested to provide more time and funding/sponsorship (07), early introduction of Module (03) and guidelines for getting funds from private organizations and sponsors (02). In addition, overseas exposure to carry out community projects and a smooth process for getting permission letters to carry out their projects were also suggested. One interesting suggestion was to focus more on studies then this type of projects.

Reliability Statistics		
Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.974	.978	12

Table 1. Reliability for overall organization of Module (Q1 – 9, 11, 15 and 18)

Reliability Statistics		
Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.968	.972	6

Table 2. Internal Reliability for Benefits and skills learnt (Q10, 12,13,14,16 and 17)

No.	Items	Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree
Theme Organisation of the SSM3						
Q1	The learning objectives for the SSM 3 COMMUNITY OUTREACH PROGRAMME projects were clear.	0	0	12.5	52.8	34.7
Q2	Project ideas were solely generated by students.	2.1	0	4.2	34	59.7
Q3	Your supervisors provided enough good support and direction.	0	0	6.3	39.6	54.2
Q4	Your supervisors were readily available for constructive feedback.	0	0	8.3	40.3	51.4
Q5	The time allocated for the project was sufficient to complete it.	0	0	23.6	52.1	24.3
Q6	The credits earned for the project equates the time spent to complete it.	0	10.4	32.6	39.6	17.4
Theme Community awareness and personal bonding						
Q7	This project activity is useful to the community.	0	0	6.3	31.3	62.5
Q8	This project made you more aware of health issues in the community.	0	0	8.3	40.3	51.4
Q9	The project is a good learning experience	0	0	4.2	27.8	68.1
Q15	Conducting the project is a worthwhile personal experience.	0	0	0	34.7	65.3
Q18	The project activities were enjoyable.	0	0	4.2	27.8	68.1
Theme Benefits and skills learnt						
Q10	The project activities enhances teamwork.	0	0	8.3	20.8	70.8
Q11	Good teamwork is necessary for the project completion.	0	0	0	23.6	76.4
Q12	The project is a good tool to learn and enhance team building skills.	0	0	0	23.6	76.4
Q13	The project is a good tool to learn and enhance organizing skills.	0	0	0	29.2	70.8
Q14	The project is a good tool to learn and enhance communication skills?	0	0	4.2	25	70.8
Q16	The project is a good tool to learn and enhance bonding with the community?	0	0	4.2	38.9	56.9
Q17	The project is a good tool to foster bonding with teammates.	0	0	6.3	25.7	68.1

Table 3. Percentage distribution of response

Question No.	Themes emerged from open responses	Total responses	Top 3 themes	Total responses
Q19: In your own words what else did you learn from this project? (21 responses)	Communication skills	7	1. Communication skills	7
	Leadership skills	3		
	Time management	3		
	Team work	5	2. Team work and Organizational skills	5
	Organizational skills	5		
	Community knowledge	4	3. Community knowledge	4
	Planning	2		
	Critical thinking	2		
	Finance management	2		
	Trust	1		
	Self-control	1		
	Self-exploration	1		
	Administration	1		
Problem solving	1			
Q20: Do you have any suggestions or comments about this project could be improved? (19 responses)	More time	7	1. More Time and Funding/sponsorship	7
	Funding/sponsorship	7		
	Early introduction	3	2. Early introduction	3
	Guidelines for getting funds	2		
	Overseas exposure	1		
	More focus on studies than SSM3	1	3. Guidelines for getting funds	2
	Permission letters	1		

Table 4. Responses to open questions

IV. DISCUSSION

We would like to cite a few examples of the community projects undertaken during this six weeks module which clearly points to a student community involvement and education outcome envisaged by the COME principles in this module. One of the most impressive programmes was an outreach BREAST CANCER AWARENESS PROGRAMME. Students started with approaching the Ketua Kampong or Headman of a remote village for permission to meet the women in that village between the ages of 18-50years. They then organised a meet and greet session whereby they spoke about the prevalence of breast cancer and how Breast Self -Examination (BSE) is a simple way of screening oneself regularly. They employed the help of their classmates and ran a session on teaching BSE to the gathered women and finally ran a fun quiz to assess how much the participants remembered their take home messages. Another example was a small endeavour to help initiate a HEALTHY FOOD CHOICES IN PRIMARY SCHOOL CHILDREN. Here it was completely left to the students to obtain permission to conduct this programme, from the school Principal and the parents of these primary school children. They chose one PE session time to invite parents and children to learn and draw common local fruits and vegetables after a talk on the nutrition value of some common fruits and vegetables. The programme ended in a quiz competition for the children who were answering questions on caloric values and benefits of the local fruits and vegetables and prizes were in the form of fruits and vegetables. Students' overall perception about SSM3 Module suggests that

community oriented medical education approach can be used effectively to enhance multifaceted learning in undergraduate medical education. Results show that the overall organization of SSM3 module was well accepted by students and this module motivated them to learn about community health problems, their reasons and to develop appropriate strategies to solve these issues.

This study shows that students were clear about the learning objectives of this module (Q1) and projects were developed by students themselves (Q2), only a small fraction (2.1%) strongly disagree with this. The reason may be that in one or two groups, supervisors interfered or dictated the project to students but majority of the projects were developed by students. Results also show that supervisors' role were well acknowledged as supportive and constructive (Q3 and Q4). Students also realized the usefulness of this module and approach not only for the communities (Q7) but also for students understanding of community health issues (Q8). Results endorse the value of this approach in enhancing learning experience by students by showing 95.9% students from 3 different cohorts either strongly agree or agree to this statement (Q 9) and at the same time 100% students consider this module worthwhile personal experience (Q15) and 95.9% consider it enjoyable (Q18). This module is conducted as small group activity and 100% students agree that good teamwork is mandatory for completing this type of projects (Q11). A 6 week protected time was provided for completion of this module and project but only 76.4% students agree that it's

enough time (Q5), a significant number of students (23.6%) are not sure if this allocated time is enough to complete their projects. Considering this fact, it might be useful to modify the time allocated for this module. One option may be to offer this module throughout the semester or even over two semesters. This will provide enough time for students to explore community, identify health issues and plan and develop a good project with more efficient interventions for a bigger and long lasting impact. SSM3 module is a Pass/Fail module and adds only 1 grade point towards cGPA. Only 57% Students agree that the credit earned for the project equates the time spent to complete it (Q6), 10.4% disagree and another 32.6% are undecided if they agree or disagree. This raises the concern about re-thinking module's grade point. One way is to convert it from pass/fail to graded module so the time and efforts spent will have more value in terms of grade points and cGPA. The reason it was not graded was concern from faculty members about the quality and reliability of assessment system. In SSM3 students are awarded marks based on group work and from that individual marks are obtained. In addition, peer assessment and assessment by supervisors also contribute to individual marks. After 3 years of assessment without any issues, this 360° nature of assessment can help in making this a graded module.

This study also highlights the perception of students in achieving multifaceted learning. Students perceived that this module helped them in learning teamwork (91.6%), developing team building skills (100%) and fostering bonding among team members (93.8%) in Q10, Q12 and Q17. In addition, 100% students agreed that they learn about organizational skills (Q13), 95.8% about communication skills (Q14) and 95.8% about learning and enhancing bonding with the community (Q16).

On exploring further regarding students' learning experience in Q19, new scopes even beyond the objectives of SSM3 were identified by students, for example, students indicated various aspects of communication skills including written communication, communication with community leaders, governmental and non-governmental organizations. Students also mentioned acquiring effective leadership skills (03), time management, teamwork, organizational skills, community knowledge, planning, critical thinking, finance management, trust development, self-control, self-exploration, administration and problem solving skills.

Students also provided some suggestions to further improve the project success and to increase the scope of their projects in Q20. Students strongly feel that more time should be provided to complete the project and this

will help them in understanding the community needs more effectively. With more time they can develop better and long lasting interventions to solve community health issues. In order to organize events and activities in communities, students need funds and currently University is not providing any funding for SSM3 projects. Students find it difficult to get sponsors or funds to organize big scale events and attract more members of the community. They strongly suggest that institution should provide some funding to support their educational projects. Some students suggested to at least provide some formal guidelines on how to approach private organizations and sponsors to support their activities. Students also suggested having early introduction of this module so they are well prepared and developing their projects before the start of SSM3 six week period for better planning and activities. Other students indicated issues related with getting permission letters from institution to carry out activities in various communities or from various agencies, they suggest to have some proper procedure to get these letters quickly so time is not wasted while just waiting for letters. One student suggested widening the scope of this project and allowing students to do community work in other countries. Another student indicated that these activities are good but students should focus more on their studies. This suggestion indicates that some students may not be clear about the need of learning various other skills important to work as a doctor in future. This issue can be addressed by more explicit description of the benefits of having this type of modules in module handbook.

Overall, the result of this survey shows that SSM3 module is well accepted by students in terms of their interest, enthusiasm, motivation and participation. Students enjoy working on their own in community with various agencies to identify health related issues. They are very keen to work together with community representatives and leaders to implement the solutions designed in solving problems in a particular community. Students also agree that this community oriented medical education approach is helpful in multifaceted learning and skill developments they need to work as a good doctor in future.

Community Oriented Medical Education (COME) approach in SSM3 module can also be extended to other health professions and may be useful in facilitating 'Inter-Professional Education (IPE)' concepts among undergraduate health professionals.

The limitation of this study is small number of participants and lack of focus group discussion to elaborate the benefits of this module in depth. Community and supervisors feedback may help in evaluating this module. Future studies should focus on mixed method approach

with descriptive survey and qualitative exploration of issues from various stakeholders for triangulation to increase reliability.

V. CONCLUSION

Undergraduate medical students perceive Community Oriented Medical Education (COME) approach in SSM3 module as an effective method to enhance multifaceted learning in real life environment. This approach is useful in developing various skills especially teamwork, leadership, organizational, managerial and communication skills. COME also helps in enhancing knowledge and understanding about communities and their health related issues with fostering bonding with community. SSM3 type small group students led projects may be useful in developing teamwork skills at various levels.

Notes on Contributors

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Declaration of Interest

This is an unfunded study. All authors have no potential conflicts of interest.

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