

Research Article

Communication to promote physical activity in family case study in community medicine for under graduate medical students

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ABSTRACT

Background: In current MBBS curriculum, adequate importance is not given to communication to promote physical activity (PA). However, there is a need to train undergraduates for counseling on PA as it has beneficial effect in prevention of non-communicable diseases.

Methods: After an ethical committee approval and written informed consent of the 2nd year MBBS students, a pre-test assessment was done on PA. An interactive educational session on PA and communication skills was conducted and then again post-test assessment was done. During family case study, each student assessed their allotted older adult family member for PA using rapid assessment for physical activity questionnaire and counselled them accordingly. Faculty assessed student's communication skills using kalamazoo essential element communication checklist-adapted (KEECC-A) and gave immediate constructive feedback. Later feedback of students and faculty were taken to evaluate the designed curriculum for physical activity. Data was entered in the excel sheet and primer-6 was used for analysis.

Results: Out of total 50 students, 35 students enrolled in the study. There was statistically significant improvement in the knowledge regarding PA. Almost 58% could effectively counsel for PA. There was overall positive feedback from the students and teachers. 71% students felt PA should be part of the regular curriculum in community medicine.

Conclusions: There was significant improvement in knowledge of students regarding PA. Students expressed need to be trained in counselling for PA.

Keywords: Physical activity, Communication skills, Family case study, Undergraduate medical students

INTRODUCTION

Family case study forms the basis of community medicine. Undergraduate medical students undertake family case study in second year. This is also the opportunity to train undergraduate students in naturalistic setting as communicator of health. In the MCI document of "Medical Council India-Vision 2015" one of the role of the doctor envisaged is as a "communicator with patients, families, colleagues and community".¹ One of the competencies is that, as a leader and member of the health care team and system, he/she should be able to

recognize and advocate health promotion, disease prevention and health care quality improvement through early recognition and intervention in life style diseases. Regular physical activity is well recognized as important lifestyle behaviour for the development and maintenance of individual and population health and well-being. Results from the ICMR-INDIAB (phase-1) study of Anjana et al showed that a large percentage of people in India are physically inactive with fewer than 10% engaging in recreational physical activity.² The authors concluded that, urgent steps need to be initiated to promote physical activity to stem the twin epidemics of diabetes and obesity in India.

However, in current MBBS curriculum for community medicine, much importance is not given to physical activity.³ Thus, the study was formulated for second year MBBS students with the following objectives-

- To impart knowledge of physical activity to the second year MBBS students.
- To train students to assess the physical activity of older adult individual using RAPA questionnaire (rapid assessment of physical activity).
- To assess student's communication skills regarding physical activity by using KEECC-A (kalamazoo essential element communication checklist-adapted).

Brief note about study tools

Rapid assessment of physical activity

Strath et al, in their article have provided a decision matrix to select the appropriate assessment tool to measure physical activity in the patients/participants.⁴ Based on the objectives, the questionnaire was the best method to measure the physical activity. Moreover, in the field practice area, most of the individuals available are of older age group i.e. grandparents, with younger population going for work. Thus we selected rapid assessment of physical activity (RAPA) questionnaire which is a reliable and valid tool for quickly assessing the level of physical activity of the older adult individual.⁵

Kalamazoo essential element communication checklist-adapted (KEECC-A)⁶

Makoul G et al, mentions that KEECC-A is based on seven essential sets of communication tasks namely; 1) build the doctor-patient relationship; 2) open the discussion; 3) gather information; 4) understand the patient's perspective; 5) share information; 6) reach agreement on problems and plans; 7) provide closure.⁷ Yoon M. et al, states that this instrument is designed for use at all levels of medical education and can be used as formative and summative assessment tools or as a clerkship teaching tool to evaluate actual and simulated patient-physician communication encounters.⁸

METHODS

The interventional study was conducted in the MCI recognised medical institute in Mumbai, affiliated to Maharashtra University of Health Sciences (MUHS) from December 2015 to January 2016. After ethical committee approval and permission from the institutional authority, written informed consent of the second year MBBS students was taken to participate in the study. Second year students are posted in the community medicine for one month. The total strength of the class is 50, so they are posted in two batches as batch A and batch B (25 students in each batch). When batch A was posted in community medicine in December 2015, the pre-test

assessment regarding knowledge of the physical activity (PA) was done. Later, two hour session on physical activity and communication was conducted using interactive teaching strategies such as role play and case studies. Students were taught on the magnitude of problem, importance and measurement of PA and WHO global recommendations for an adult for PA. Students were also trained on assessment of physical activity using RAPA (rapid assessment of physical activity) questionnaire, and communication skills for PA counseling. Since assessment of the communication skills was planned with the use of kalamazoo essential elements of communication checklist adapted (KEECC-A), students were also briefed about this assessment tool in the contact session. This instrument also formed the basis to teach communication skills to the students. Students were taught importance of each domain under KEECC-A and how to communicate in the community under each domain in the local language.

The students were assessed by the faculty of community medicine department. They were also oriented to the use of instrument KEECC-A and training of PA for students.

The post-test assessment was done after the session. Students were provided with the handouts of the power-point presentations and RAPA questionnaire to practice on their family members and/or friends. After few days, during their family visits, each student assessed their allotted family in the community for physical activity using RAPA questionnaire and counselled them regarding physical activity. Immediate constructive feedback based on KEECC-A was given to the student by the faculty who was assessing her/him. Later feedback of students was taken to evaluate the effectiveness of all the activities that were undertaken.

Similar interventional procedures were conducted for batch B in the month of January 2016. Feedback of the teachers was taken to find their views and suggestions. Data was entered in the excel sheet and for statistical analysis, primer-6 was used to calculate paired t-test.

RESULTS

Out of total 50 second year undergraduate medical students, 35 students attended training session on physical activity. The mean pre-test score pertaining to the knowledge of physical training and its importance was 4.5 (SD 1.8) and post test score was 12.6 (SD 2.9). There was statistically significant improvement in the post test score (P-value <0.05).

Out of 35 students, 31 students attended family visit for family case study. Almost 58 % (18 students out of 31) were very good or excellent in PA counselling. Table 1 shows the performance of the students in different domains of communication based on KEECC-A. There was overall positive feedback from the students and teachers. Many students commented "interaction with

family was good and could understand better by practice in community.” Three students had language barrier while communicating with their allotted family in the field, while many felt no modification in the program required in overall activities (contact session and field session) that were planned. Seventy one percent felt “physical activity” should be part of the regular curriculum.

Table 1: performance of the students who scored 3 or more than 3 (good, very good or excellent) on different domains of communication based on Keecc-a checklist (n=31).

Sub domains of communication	Frequency	Percentage
Builds a relationship	20	65
Opens the discussion	17	55
Gathers information	20	65
Understands the family member's perspective	19	61
Shares information	17	55
Reaches agreement	18	58
Provides closure	15	48

DISCUSSION

Despite a large evidence base to demonstrate the health benefits of regular physical activity (PA), few physicians incorporate PA counseling into office visits. Dacey et al, states that inadequate medical training can be one of the causes.⁹ Doctors are a respected source of health-related information and are well positioned to provide physical activity counselling to patients. Anand T et al, refers doctors as the potential agents to increase the levels of physical activity in large population and thus produce important health gains.¹⁰ E Frank et al, state that promotion of adequate PA habits during medical education may be an important step to improve the PA counselling that future clinicians provide.¹¹ As per the literature reviewed, this is the first study in India which is addressing these key issues. Training of medical graduates in eliciting history of PA and counselling in PA is required. This will eventually reduce the burden of non-communicable diseases.

In first year of MBBS, exercise physiology is included in the university curriculum of MUHS.¹² The pre-test score however, showed that, students had very minimal knowledge regarding PA and their knowledge significantly improved after interactive session. This shows that, re-enforcement of PA knowledge is required. Currently PA is in the syllabus of community medicine for under graduate students, with minimal information about PA in K Park, which is the most commonly used standard textbook for community medicine.¹³ Moreover, till date, as per our information, it is never assessed and/or taught making it least important topic. However after the session, students and faculty both felt the need to

include it in curriculum. The focus was on family case and second year students. However, even in III year and internship, students can be trained to routinely elicit PA history in each clinical case, so that they become competent in counselling for PA and start practicing. It is however necessary to involve faculty members of other departments and all other students.

This study was community oriented learning. This interventional model, thus not only benefitted students but the community as well. All those allotted families were counselled for PA and its importance. In this study, almost all students had positive learning experience for community oriented learning. They could understand better, by directly dealing with community and communicating with them.

Harden R et al, have stated SPICES model-six education strategies relating to the curriculum in a medical school.¹⁴ These are student-centred, problem-based, integrated based, community-based, elective and systematic-based. This SPICES model of curriculum strategy analysis can be used in curriculum planning. In designing the curriculum for physical activity, study included student centred, problem based, disciplinary, community-based, elective and systematic based educational strategy. However, it can be made integrated and hospital based also by involving other disciplines.

In this research, KEECC-A was used to assess the communication skills of students. According to Barbara L et al, the KEECC-A is a psychometrically sound and user-friendly communication tool.¹⁵ The faculty also found it easy to use this tool in the community. Since the checklist has seven domains, faculty found it easier to give constructive feedback on each domain. In this study, it was observed that, students communicated well in building the relationship, opening the discussion, gathering the information, understanding the family member's perspective and sharing the information. However, they need more training on how to reach agreement and providing closure.

Looking at the paucity of education research on training under graduate medical students for PA counselling, more research is advisable with larger sample size to get consistent and valid results.

CONCLUSION

There was significant improvement in knowledge of students regarding physical activity. Students felt need to be trained in counselling for physical activity.

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