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Short Communication

Early introduction of clinical skills in the pre-clinical phase of an integrated medical curriculum

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ABSTRACT

The mastery of clinical skills is crucial in acquiring clinical proficiency among medical students. Early introduction of clinical skills has been found to be beneficial since these skills may take significant time to develop. Early introduction of these skills would likely facilitate the integration of clinical and basic science knowledge. The clinical skills curriculum was implemented in the last block of Year one in our medical school with main thrust on basic history taking skills and examination of the major body systems. Various methods of teaching were used which included audio-visuals, role play, examination of manikins and examination on peers. The students showed a keen interest in acquiring clinical skills. The students were assessed using an Objective Structured Clinical Examination (OSCE). The students performed well in the OSCE examination especially in the skills section. The feed back obtained as part of the end of block reflections and a questionnaire based survey, was very encouraging.

INTRODUCTION

Patients expect physicians to be knowledgeable and to use their knowledge skillfully to provide medical care in a professionally competent manner. The mandate for medical education is to educate and train physicians who can meet those expectations. To that end, undergraduate medical education programs are expected to provide learning experiences that will allow each aspiring physician to acquire the knowledge, skills, and attitudes deemed appropriate for medical school graduates [1].

Acquiring knowledge is the main thrust of medical school, but recent studies have shown that the opportunities for students to participate at a meaningful skill-learning level in clinical care (in both hospital and clinic settings) is becoming more limited with each passing year [2,3]. Coupled with the fact that much of the fourth year had become elective, the opportunities students have to develop basic clinical skills proficiency are becoming quite limited.

Clinical skills are imparted to students after completion of their first professional exam in the traditional medical curriculum [4]. Early introduction of clinical skills was viewed to be beneficial since these skills may take significant time to develop. Moreover, early introduction of these skills would likely facilitate the integration of clinical and basic science knowledge. The undergraduate medical program in our university includes early clinical exposure and training of clinical skills. The objectives of the training were to develop competency in communication, history taking, as well as procurement of vital signs and basic systemic examinations.

AIM AND OBJECTIVES

This study was done to generate a student feedback on a new methodology of early introduction of clinical skills. The responses as well as the OSCE results were used to analyze the student's communication and psychomotor skills as well as the competence of the new faculty in delivery of the curriculum. It was also used to critically analyze the infrastructure facilities and recommend upgrade of the available space and amenities.

MATERIALS AND METHODS

The Clinical skills curriculum was introduced and implemented in Block 4 of the Year 1 curriculum.

Number of students

A total of 50 students received the training for a period of 4 weeks with lectures, videos, role play and simulation classes.

Teaching and learning activities

Lecture sessions introduced the theory aspects of patient confidentiality, doctor patient communication. This was followed up with audiovisual sessions and practical sessions.

The need for learning clinical skills was explained to the students and basics of history taking, interpersonal communication, and documentation of patient history were delivered in the lecture format. Role play was used where students enacted the role of patient and doctor, and feedback was given by the students and the clinical instructors. The general examination and examination of the various systems was also explained using videos and demonstrated on mannequins. The students then performed the examination on the mannequins and on their peers; under supervision in the OSCE ward.

On an average, per week, they had 4 lectures of one hour each followed by an hour of audiovisual session where videos on how to perform the general examination and systemic examination was played to the students. All the lecture notes and the videos were uploaded in the Learning management system (LMS) for the students to access them in future for revision. This was followed by 2 hour session in the make shift communication skills lab and the lecture hall where the students did role play, self-examination and peer examination.

Evaluation Methods

At the end of the block, the students underwent an Objective Structured Clinical Examination (OSCE) in a ward setting. The students were assessed for their knowledge, correct sequence of performing the examination, communication skills and attitude. Role play was used in the assessment where basic history taking skills and process of recording of vital signs were assessed. Systemic examination was also assessed for recall of the sequence of performing the examination on mannequins or on volunteers. The marks were collated and included in their continuous assessment score.

Student feedback

An anonymous survey was conducted during the reflection session at the end of the block where the questions were flashed via slide presentation and the students answered on provided answer sheets. The data was analysed and results depicted in Figure 1.

RESULTS AND DISCUSSION

The student performance in the OSCE showed a good response. A feed back in the form of block reflection was given by the students at the end of the block (Figure 1).
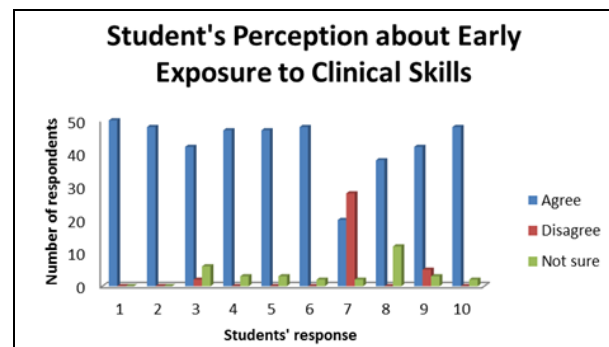

Figure 1. The students' response to the skills component was assessed via feedback (n=50)

1. I enjoyed the clinical skills session.

2. The role play sessions were fun and enjoyable.

3. The skills taught were adequate for early clinical exposure.

4. The clinical examinations videos were informative and user-friendly.

5. The sessions reinforced my decision to become a medical doctor.

6. The facilitators were competent and dedicated.

7. The venue was adequate for conducting the sessions.

8. The role play sessions taught me good communication skills.

9. The sessions were tailored to year one (early exposure).

10. I would recommend the clinical skills sessions to continue in Year one.

On a positive note, the students indicated that they enjoyed the training sessions and felt that the early introduction of basic bed side techniques like measurement of blood pressure, examination of various systems reinforced and validated their decision to join the medical course (Item 1 and 2 of Figure 1). They enjoyed the hands-on sessions and were able to relate to the professional bed- side manners. Though, it was done in a non-clinical setting, the students went through the whole program with enthusiasm and dedication. 42 students (84%) agreed that the clinical skills program was tailored to their knowledge level. They also felt that the session objectives were clear, and 96% students felt that the teachers adequately demonstrated the skills.

Areas of concern

Students indicated concern about lack of proper space for learning and time for supervised practice as indicated in item 7 in Figure1. 28 students (56%) disapproved of the venue used for the sessions which was conducted in the lecture hall. Faculty recommended improvement of the facilities and recruitment of more clinicians to teach the course. The clinical skills lab is under construction and will be made available for the next batch of students.

A minority number of students (16%) felt that some of the clinical skills, especially system examination (central nervous system and cardiovascular system) taught were not tailored to their current knowledge (Item 3 and 9, Figure 1). The students were only briefly exposed to the various organ systems in Year one, which they will be studying in detail in Year two. Hence they had difficulty in grasping the finer details of conducting the nervous and cardiovascular system examination.

This project demonstrated that early training in clinical skills is feasible in resource limited environments. Moreover, training space was upgraded as a result of the pilot.

CONCLUSION

Implementation of the early introduction of clinical skills has been recommended as it appears to be associated with increased confidence and improved student performance in 3rd-year clerkships, especially in the Internal Medicine postings [5]. It has been well established by various studies globally that medical students enjoy the clinical skills program as it makes them 'feel like doctors' [6]. Continued efforts to elucidate how to best prepare students for clerkships and how to evaluate outcomes of clinical skills training programs is encouraged in medical curriculum world over.

The clinical skills program in year one of medical course featuring guided history taking as well as system examination using audiovisual aids and mannequins was well received by our students. Dedicated faculty mentors demonstrated the techniques and it has been proven to be an effective method for improving some aspects of student performance in basic clerkships [7]. The program was well received by the students who enjoyed the sessions irrespective of the lack of adequate infrastructure. Their performance in the OSCE as well as the feedback was encouraging. Evaluation of the student's performance during the clinical years will assist in reviewing the impact of this venture.

We recommend that continuous evaluation of the program, both in the early pre-clinical phase and later clinical years, is required to improve the quality of delivery. This will assist in tailoring the program to improve the knowledge, skills and competency of medical students in the future.

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