

Importance of Clinical Skills Center in Promoting Clinical Teaching and Improving Performance of Libyan Medical Students

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ABSTRACT

The establishment of a clinical skill center (CSC) is important, because it help in improving and maintaining clinical and communication skills, and to ensure that all students have the necessary learning opportunities and appropriate assessment before approaching real patients.

To evaluate the clinical skill center at Faculty of Medicine from student' perspective.

A descriptive cross sectional study was conducted at CSC in faculty of medicine during period of 3 months from April to June 2017, included 400 medical students who were finished all skills, and asked to complete an evaluation sheet and rate their agreement with a series of 10 questions, and one open ended question. Data analysis was done by SPSS program version 19.

There were 318 (79.5%) of students who felt that CSC helped them to learn theoretical knowledge and apply it in a clinical setting. A total of 320 (80%) of students thought the skills sessions were mostly valuable, and excellent additional; 337 (84%) of student preferred to spend time learning in the lab and 259 students (64.5%) felt there were enough doctors. Half of class felt that there were too many students in the session, and 271 (67.5%) felt that time of the session was enough. The majority of students 341 (85.5%) felt there were CSC helped them to gain skills and feel as a doctor and 363 (91%) students agree with early introduction of CSC and highly recommended it.

Introduce clinical skills center as a new innovative method to provide comprehensive clinical skills training to assist medical students and not to replace traditional bedside teaching in hospital was well-perceived by students.

Key words- Clinical skills center; Clinical teaching; Healthcare system; Teaching methods.

INTRODUCTION

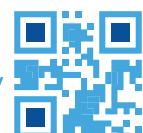
Clinical skills performance is considered to be core proficiency and is crucial to professionalism in medical practice, contributing to successful outcomes in patient care.¹ Actual teaching at the bedside during attending rounds, with emphasis on history taking and physical diagnosis, has been declined significantly from an incidence of 75% in the 1960s to an incidence of less than 16% today.² Thus students' and doctors' deficits in their clinical skills experiences, made a trend toward training in clinical skills centers a necessity.³ Globally, previous studies indicated several reasons behind this decline, such as the bulk of patients' care has shifted away from hospitals to primary care units, private clinics, insurance institutes and tertiary or specialized hospitals, where medical students' teaching programs are not available.⁴ Additionally, due to the increasing clinical, and research duties of senior doctors and teachers, the frequency of bedside round is significantly decreasing, and the time spent at rounds has gotten much shorter than before.⁵ As a result of all of these factors the traditional bedside teaching has become deficient in providing comprehensive training in clinical skills.⁶ Many medical schools have developed a set of basic clinical skills to train medical student before they use such skills on patients.⁷⁻¹⁰

Basically, previous studies reported the majority of graduated

medical students have significant deficits in their clinical skills experiences.^{7,8} Thus, the curriculum integration and the early introduction of clinical skills teaching are educational goals recommended by the world Conference on Medical Education and the General Medical Council in the UK.^{9,10} Additionally, some studies reported that the examination performance of medical students who are received training at skills lab was significantly better and learning effect lasted longer than students who are trained by classic traditional bedside teaching.¹¹⁻¹²

A clinical skills center can contribute significantly to enhance undergraduate medical education teaching, by using this center as alternative route for training medical students the basic of clinical examination, communication skills, and practical procedures thus avoid endangering patient to the risk of traditional clinical settings.¹³⁻¹⁴ The safe protected environment of (CSC), with no concerns of patient distress, where mistakes are permissible, and students can feel at ease to learn at their own pace, without affecting the quality of patients and with no limitation and frequent rehearsal and review of particular skills, especially the more difficult, painful, and embarrassing ones, help the students to reach proficiency.¹⁵⁻¹⁷

As (CSC) has been established recently at faculty of medicine in University of Tripoli, hence the study was conducted to evaluate the clinical skill center from student' perspective.



MATERIALS AND METHODS

The clinical skills center was established in 2016 at Faculty of Medicine in University of Tripoli; according to international standards with a variety of teaching methods, for skills training in demonstration rooms of different clinical subjects. It provides a variety of medical education programs with simulate encounters to supplement traditional medical education and equipped with variety of latest simulation with all resources needed for teaching students clinical skills, from simple SimMan training models to the 3G SimMan.

The study was a descriptive cross sectional type, conducted at clinical skill center in Faculty of Medicine at University of Tripoli; during the period of 3 months from April to June 2017, including 400 medical students who were completed the skill I, II, and III. They were required to complete the questionnaire during one sitting, which was designed to obtain information on the importance and usefulness of CSC and whether it had helped them to improve their clinical skills and enhance their confidence during their clinical years. Students were asked to complete an evaluation sheet and rate their agreement with a series of 10 close-ended questions with a five-point scale questions, and the students were required to choose one of the five levels of agreement: Agree, Strongly agree, Neither agree nor disagree, Disagree, Strongly disagree. At the end of the questionnaire, there

was an open-ended question asking the students' opinion about the benefits of clinical skills and for suggestions to improve the center. Statistical analyses were performed using SPSS version 19.0 (IBM corporation). Data presented as frequency and percentage. Verbal consent was obtained from each student, data collection tool was anonymous, and data confidentiality was maintained throughout the study.

RESULTS

The majority of students 318 (79.5%) agreed or strongly agreed that clinical skills center helped them to learn more about the theoretical knowledge and apply it in a clinical setting better. There were 320 (80%) of the students who thought that the clinical skills sessions were mostly valuable, and excellent additional to their medical curriculum. A total of 328(82%) of students felt the time spent in the clinical skills center is exciting time and well spent. Majority of students 341(85.5%) felt that CSC helped them to gain clinical skills and feel as a doctor (Table 1).

Majority of the class 337(84%) preferred to spend time learning in the clinical center rather than studying in the library. There were 259(64.5%) students who felt that there were enough doctors to help them during the practical session. Approximately half the class 201 (50.5%) felt that there were too many students in the session at any one time, and more than half of students

Table 1: Student perception of importance of skill lab in learning clinical skills

| Questions | Strongly agree | Agree | Neither agree, nor disagree | Disagree | Strongly disagree |
|---|----------------|-------------|-----------------------------|-----------|-------------------|
| 1- CSC helped me to learn more about the theoretical knowledge, and apply it in clinical setting during the session | 162 (40.5%) | 156 (39%) | 47 (12%) | 24 (6%) | 11 (3%) |
| 2-Clinical skills sessions are mostly valuable, and excellent additional to our curriculum | 142 (35.5%) | 178 (44.5%) | 61 (15%) | 12 (3%) | 7 (2%) |
| 3- Time spent in CSC is exciting time and well spent | 133 (33%) | 195 (49%) | 39 (10%) | 17 (4%) | 16 (4%) |
| 4- CSC helps me to gain clinical Skills and feel as a doctor. | 175 (44%) | 166 (41.5%) | 44 (11%) | 10 (2.5%) | 5 (1%) |

Table 2: Student opinions regarding evaluation of clinical skill center.

| Opinion | Strongly agree | Agree | Neither agree, nor disagree | Disagree | Strongly disagree |
|---|----------------|-------------|-----------------------------|-------------|-------------------|
| 1. I prefer to study in the library Rather than work in CSC | 8 (2%) | 10 (2.5%) | 45 (11%) | 157 (39%) | 180 (45%) |
| 2. During the sessions, I feel there are enough doctors to help me | 130 (32.5%) | 129 (32%) | 38 (9.5%) | 50 (12.5%) | 53 (13%) |
| 3. There are too many students at one Time and make the practical session difficult to understand | 95 (24%) | 106 (26.5%) | 40 (10%) | 99 (25%) | 60 (15%) |
| 4. The time of the session not enough to do all the practical material, and I would like more time available during the session | 38 (9.5%) | 62 (15.5%) | 29 (7%) | 174 (43.5%) | 97 (24%) |
| 5. I find the clinical skills practical boring, and the depth of topics covered too complex | 3 (0.75%) | 4 (1%) | 32 (8%) | 177 (44%) | 184 (46%) |
| 6. The early introduction of Clinical skills teaching is an excellent idea and I highly recommended it | 195 (49%) | 168 (42%) | 28 (7%) | 6 (1.5%) | 3 (0.75%) |



271 (67.5%) felt that time of the session was enough to do all the practical material. There were 361 (90%) who disagreed that clinical skills practical boring, and the depth of topics covered too complex. A vast majority of students 363 (91%) agreed with early introduction of clinical skills teaching program, and highly recommended it (Table 2).

For open-ended question, there were 66(16.5%) out of the 400 students who completed and gave their comments, suggestions on the skills center and how to improve it. There were 15(23%) students who suggested to make separate sessions between the male and female and not mix them at one session, 12(18%) of students suggested to visit the hospital from time to time and explore to the real life in the hospital setting, 11(16.5%) of students suggested to increase the duration spent doing practical on the modules rather than listening in the lectures. There were 12(18%) students who commented on how they suffer from large number of students in each lab to allow more time to do practices. There were 5(7.5%) students who suggested in making a short explanatory video before each lab, and 2(3%) of students suggested to increase the number of available modules and teaching staff, to enhance their chance of training. There were 7(10.5%) students who suggested in making a review of all labs before the date of exam, and 2(3%) of students wrote that there should be opportunities to do practice on the real patients (Table 3).

Table 3: Suggestions of student for improving skill lab at Faculty of Medicine, 2017 (N=66)

| Suggestions | Number | % |
|---|--------|-------|
| Make Separate session between male and female | 15 | 23% |
| Early visit to the hospital | 12 | 18% |
| Increase duration of training session | 11 | 16.5% |
| Decrease number of attending students per session | 12 | 18% |
| Establish video session before each lab | 5 | 7.5% |
| Increase number of staff per session | 2 | 3% |
| Revision of sessions before date of exam | 7 | 10.5% |
| Practice on real patient | 2 | 3% |

DISCUSSION

Previous study have been done at Oxford University, UK by Rees et al. (1998)¹⁸ reported that clinical skills center is a multidisciplinary educational facility with teaching methods and learning resources that provides structured clinical skills training in varied formats and circumstances in setting outside the hospital wards in order to train students with enough confidence, and competence prior to direct patient contact in hospital setting. In Sudanese study by Malik GM

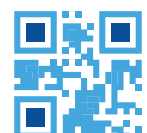
(1991)¹⁸, it reported that the introduction of clinical skills and practical medical procedures as early as the second year has given the student ample time to practice those skills before graduation, with early demonstration of wide varieties of clinical skills has also facilitated the ability and enhanced the confidence of the students to perform those skills during the internship.

At the University of Tripoli, the third year medical students (semester 6th) who had recently completed all clinical skills classes (I, II, and III), were chosen as the target group as they just completed all the required clinical skills modules and would be the best respondents to give their opinions.

In present study, the majority of medical students (91%) agreed or strongly agreed to introduce clinical skills in the early years of the medical school curriculum, and they highly recommended it. They reflected that the skill learning course enhanced their learning interest, and was well-perceived by students, and made them feel like doctors.

Consequently, the essential role of clinical skills training is to offers an innovative, exciting ways of learning method that efficiently fills the gap between learned theoretical knowledge and clinical skills practice. On other hand, University of Tripoli suffers from the large numbers of students annually admitted, and center workshop space is not enough to cover this huge number of students, hence the learning process will be inadequate, and overcrowding. In present study, more than half of students complain from too many students in the session, and difficult to do practice perfectly. This can be solved, to some extent, by subdividing the group into many subgroups and then to repeat each session several times. Consequently, that required more staff and is time consuming. The teaching staff can be a mixture of full time tutors to ensure continuity of the teaching programs, and part time facilitators.²⁰ Skills center should include people with expertise in Medicine, Gynecology, Clinical skills, Communication skills, Information technology, Nursing and Midwifery.²⁰ Demonstration of skills is necessarily a teacher's skill, and then it needs practice and good preparation prior to sessions. A Sudanese study by Ahmed AM. (2008)⁴, found the some teachers spend most of the time in theoretically describing skills leaving a little time for students to do practice; thus a skills session becomes a lengthy lecture. As in present study, some students suggested to increase the duration spent doing practical on the modules rather than listening in the lectures. Even more, England study by Stark et al. (2003)²¹ indicate that some schools do not devote enough time in the development of curriculum for skills teaching.

Furthermore, as a result of delay between the time of ending the session and the time of starting the clinical exam, some students subsequently found difficulty in remembering what they have learned in the lab and what should be done. This can be solved by opening the (CSC) before the date of exam for reviewing and practical on the simulators models as some students suggested. A study conducted at United Arab Emirates by Das M, Townsend A, (1998)²² reported that some medical schools of Arabic countries, where male and female students are taught in separate sessions, because of religion issue and the use of manikins at the labs offers a suitable opportunity to teach physical examination and other clinical skills. Similar results, confirming this study, were achieved by Ahmed AM. (2008)⁴, in Sudan, where they



found that in these Arabic countries some female students and even some strictly faithful male students may refrain from dealing with patients of the other sex, that is make the (CSC) a suitable place to gain skills without touching the real patient. In present study, on the basis of the open-ended question feedback, some of students suggested to make separate sessions between the male and female and not mix them at one session. Some of students also suggested to visit the hospital from time to time and explore to the real life in the hospital setting, as aim of the hospital visits is to prepare them on how to approach patients during their clinical years. A medical educators by Farrell et al²³ and Fromme et al²⁴ agreed that clinical skills are best taught in hospitals with the clinical supervisors directly observing clinical encounters between the students and patients.

The result of present study was also confirmed by recently published study in Malaysia by Shuid et al. (2015)²⁵, which reported that the early introduction of clinical skills was well-perceived by majority of students in preparing them for their clinical years, and it was a vital part of the pre-clinical curriculum and should be further enriched with frequent hospital visits to enhance students' confidence level and performance when interacting with real patients during their clinical years in the hospital. Furthermore, in previous study conducted by Lam et al. and his colleagues²⁶, indicated the majority of first year medical students agreed or strongly agreed with introduction of clinical skills in the early years of the medical school curriculum, and skill training as a good preparatory experience for later clinical and clerkship years.

CONCLUSION

Introduce clinical skills center as a new innovative method to provide comprehensive clinical skills training and to ensure that all students have the necessary learning opportunities, and chances of rehearsal and consolidation of learning materials before approaching real patient and not to replace traditional bedside teaching in hospital, was well-perceived by students.

RECOMMENDATIONS

Further studies are recommended for continuous development and evaluation.

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