Original Article

Students' Perception on Acquisition of Basic Clinical Skills

1. Asma Hafeez 2. Tariq Mahmood Mufti 3. Zubia Athar

1. Assoc. Prof. of Anatomy 2. Prof. of Anaesthesia 3. Prof. of Anatomy, Wah Medical College, Wah Cantt. Rawalpindi.

ABSTRACT

Objective: To analyze the perception of medical students towards the basic clinical skills workshops conducted during their final year in a Pakistani medical college.

Study Design: Cross sectional survey

Place and Duration of Study: This study was conducted at the Department of Medical Education, Wah Medical College, Wah Cantt, Rawalpindi during February 2012.

Materials and Methods: Fifty final year students were divided into five batches for the workshop. Each batch rotated through five stations with allocated basic clinical skills. The students practiced the skills on dummies and manikins after demonstrations and instructions by the facilitators. A predesigned likert scale questionnaire with thirteen close ended questions with five options each was filled by students anonymously at the end of the workshop. Frequencies of answers were calculated.

Results: Majority of students gave positive response about the conduct of the workshop and quality of facilitation. They agreed on having an improvement in their level of clinical competence post workshop. Majority suggested that the workshop should be conducted at the beginning of the final year. Although 70% thought that the skills included were relevant, however, almost a quarter remained undecided on the matter.

Conclusion: The students appreciated the importance, conduct and arrangements of the workshop, and quality of facilitation. Kinesthetic learning based workshops on basic clinical skills should be a regular practice and must be conducted at the beginning of final year class of undergraduate medical education.

Key Words: Students. Clinical competence. Education. Undergraduate.

INTRODUCTION

Background theoretical knowledge and basic clinical skills go hand in hand and form two equally important foundation pillars of medical education and an undergraduate trainee should acquire both[1]. In "traditionally oriented" medical schools, the students are usually expected to learn clinical skills by observing the clinicians, by interviewing and examining patients, and finally presenting findings for discussion [2]. Before graduating, the students are exposed to basic clinical skills unequally. To prepare medical students for their experience and postgraduate training, basic clinical skills should be addressed specifically in the curriculum[3].

Surgical skills laboratories have become an increasingly important component of technical skills training for students and learners entering surgical fields[4]. They have emerged in response to observations that completion of an accelerated skills course results in comparable levels of student performance postcourse across a variety of preclinical backgrounds and clerkship experiences [5].Graduating class students can provide valuable feedback on what they have learned in the existing system[6].

The current project was designed to analyze the perception of medical students towards the clinical skills workshops conducted during their final year in a Pakistani medical college.

MATERIALS AND METHODS

This cross sectional survey was carried out with prior permission from the college authorities in which fifty final year students were included after informed consent. Students were divided into five batches for the activity. Five stations were established in different rooms in the skills lab and were allocated skills to be practiced by the students. All batches were rotated through each station where they were demonstrated and facilitated by clinicians experienced in relevant fields with an objective to let the students learn and practice basic clinical skills Each batch attended the workshop for a duration of two days (12 hours). The students were given a chance of hands on practice of following skills on dummies and manikins after demonstrations and instructions by the facilitators:

- Station 1 was allocated to basic surgical skills including aseptic measures, gowning and gloving, suturing and knotting, intramuscular injections, fine needle aspiration cytology (FNAC) and true cut biopsy.
- Skills learnt at station 2 were male and female catheterization.
- Station 3 was for various types of bandages including plaster cast.
- Station 4 was allocated for airway management including emergency airway management, endotracheal intubation and tracheostomy

- Students learnt and practiced obstetric skills like normal vaginal delivery, breech delivery, instrumental delivery (outlet forceps and vacuum extraction) and episiotomy at station 5.

A predesigned likert scale questionnaire having thirteen close ended questions with five options (on a scale of five, i.e., from strongly agree to strongly disagree) each was given to students at the end of the workshop. The students were asked to anonymously fill in their responses honestly and without any teacher or peer pressure because their answers would have an impact on future policy regarding improvement of basic clinical skills in graduating doctors.

The questions of the questionnaire were grouped into four categories. Category I (question 1-7) dealt with arrangement and conduct of the workshop. Category II (question 8-10) was related to competence of facilitators and quality of facilitation. Category III (question 11 &12) was about outcome of the workshop. Category IV (question 13 & 14) had queries, the responses to which might help in defining future strategy and policy.

The results were entered into SPSS version 19 and frequencies of answers calculated.

RESULTS

All students attended the workshop and rotated through all the stations. They learnt and then practiced the clinical skills enthusiastically and generally appreciated the kinesthetic mode of learning with the help of dummies and manikins. When asked to fill the questionnaire, all fifty students replied promptly. In general they gave positive response regarding the conduct and outcome of the workshop and the quality of facilitation. The specific pattern of their perception about the basic clinical skills workshop as showed through the feedback proformas they filled is shown in Table-I.

Table No.1: Student's responses (in percentage) to the questionnaire on basic clinical skills workshop

S. No.	Question Category	Question	Percentage of responses				
			SA	A	UD	DA	SDA
1	I	Were you informed about the schedule in time?	40%	46%	10%	2%	2%
2		Were you given enough time on each station?	38%	42%	4%	12%	0
3		Was rotation among different stations smooth?	44%	40%	4%	8%	4%
4		Were you given enough chance of hands on practical experience?	26%	50%	12%	0	2%
5		Did you find contents of workshop useful?	58%	42%	0	0	0
6		Did you like the arrangements of workshop?	38%	58%	2%	0	2%
7		Would you like to have similar workshops in future?	58%	42%	0	0	0
8	II	Were facilitators able to hold your interest?	48%	46%	4%	2%	0
9		Were relevant examples discussed?	26%	66%	4%	2%	2%
10		Would you like to attend workshops in future facilitated by these facilitators?	48%	46%	2%	4%	0
11	III	Were the objectives of workshop achieved?	40%	52%	4%	4%	0
12		Did the workshop improve your clinical skills	84%	16%	0	0	0
13	IV	Should these workshops be conducted in the beginning of academic session of Final year?	48%	44%	8%	0	0
14		Were all the skills included in the workshop important to be learnt at undergraduate level	20%	50%	24%	2%	4%

SA = Strongly agree A = Agree UD = Undecided
DA = Disagree SDA = Strongly disagree

DISCUSSION

The necessity of learning skills through "integrated skills training" at an undergraduate level has been supported by several studies. This training is a more effective method of learning basic clinical skills, compared to traditional skill training and reinforcement in 12 month clinical internships [7]. Skills instruction for senior students entering surgical internship results in a higher perception of preparedness and improved skills performance [8].

The skills included in the workshop under discussion encompass several surgical disciplines. The skills included (general surgery, obstetrics, airway management, orthopedics and urology) form a part of suggested curriculum of practical clinical skills in undergraduate medical education [9]. The fact that the surgical resident must have thorough cognitive understanding of the process as well as technical mastery of non surgical airway management [10] further justifies inclusion of these skills in the workshop. Acquisition of core obstetric skills during student life would help the graduating doctors and interns in future.

The same is in practice in United Arab Emirates University [11]. Training on catheterization was included in this workshop which during student life is not a routine practice. Such procedure carried out by untrained hands especially in male patients can lead to severe complications and injury and thus merits inclusion in curriculum [12]. We endorse this suggestion.

Use of manikins and dummies for the workshop enabled to students to use their tactile senses amply thus enhancing learning process. This mode of hands on kinesthetic learning is generally enjoyed and preferred by the students [13].

The results of the category-I questions show that the students were generally satisfied with the conduct and arrangement of the workshop. However, the indecision and disagreement showed by students in question 1 (10 and 4% respectively) might indicate a lack of interest by few students. Better motivation, planning and counseling in future might solve this problem. The indecision and disagreement by few students regarding enough time on each station, smooth rotation among stations and enough chance of hands on practice might reflect on the length of the workshop which could be increased from two days (12 hours) in order to improve the quality of clinical skills learnt by the graduating class as young medical graduates undertaking their housejob are naturally expected to demonstrate reasonable competence in basic practical skills. Lack of the same may be a source of anxiety to the doctor and a potential hazard to the patient [14]. A 100% agreement shown by the students on want of attending the similar workshops in future (question 7) reflect upon their desire to avoid the same dilemma.

The category-II dealt with quality of facilitation, wherein majority of students either strongly agreed or just agreed that the facilitators were able to hold their attention, discussed relevant examples and would be suitable for facilitating future workshops. This endorses the effectiveness of teaching in the learning process. Moreover as each batch comprised of ten students only, this small size might have enhanced the student facilitator interaction thus rendering the workshop effective through small group teaching (SGT) which creates the perfect environment for learning and discussion, without the need for didactic teaching and leads to improvements in the quality of teaching and learning [15]. SGT is considered an effective methodology in relevance to clinical teaching [16].

The category-III questions related to the outcome of the workshop. Majority of the students were of the opinion that the objectives of the workshop were achieved while only 4% each remained undecided and disagreed. In response to the next question where students were asked whether this training improved their clinical skills, an absolute agreement was achieved. These results further endorse the effectiveness of the workshop. This is in accordance with a previous study where the integrated curriculum which included clinical and technical skills did improve confidence and would enhance baseline abilities for clinical internship [17]. As in a traditional setting, medical students' first experience in the operating theatre often takes place during their electives and is therefore separated from the university's medical curriculum [18], learning of these skills during student life is important and might prove to be beneficial for the graduating doctors as well as the students they would treat during their house job.

As category-IV questions dealt with students' perception regarding contents and timing of the workshop their response might have an effect on future planning. In opinion of majority of students the workshop should be conducted at the beginning of the final year MBBS class. This consensus might be based on the fact that the students would have a whole academic year ahead of them before graduation and would get chance of practicing and consolidating these skills during this time.

As far as contents of the workshop were concerned, a mixed pattern of response was observed. Although half of the students agreed that all skills practiced should be learnt at undergraduate level, but a noticeable 24% remained undecided and 4% disagreed as well. This might reflect upon the inexperience of students. There are gaps between what is required and what exists at present. Inputs of all stakeholders are needed to identify these gaps. Being important stakeholders feedback from medical students regarding the deficiencies they faced plays an important role in developing and revising training programmes [19]. Although an integrative medical curriculum with a student-centered strategy of education interests most medical students[20], several other factors like teacher's perception, cost and time needed for training, needs of the community and patient's expectations must be kept in mind while revising policies.

CONCLUSION

The students appreciated the importance, conduct and arrangements of the workshop, and quality of facilitation. In light of their response, it is suggested that kinesthetic learning based workshops on basic clinical skills should be a regular practice and must be conducted at the beginning of final year class.

REFERENCES

1. Rüsseler M, Weber R, Braunbeck A, Flaig W, Lehrteam des Zentrum Chirurgie, Marzi I, et al. Training of practical clinical skills in surgery - a training concept for medical students. Zentralbl Chir 2010;135(3):249-56.
2. Sanson-Fisher RW, Rolfe IE, Jones P, Ringland C, Agrez M. Trialing a new way to learn clinical skills: systematic clinical appraisal and learning. Med Educ 2002;36(11):1028-34.

3. Elnicki DM, Shumway JM, Halbritter KA, Morris DK. Interpretive and procedural skills of the internal medicine clerkship: performance and supervision. South Med J 1996;89(6):603-8.
4. Klingensmith ME, Brunt LM. Focused surgical skills training for senior medical students and interns. Surg Clin North Am 2010;90(3):505-18.
5. Zeng W, Woodhouse J, Brunt LM. Do preclinical background and clerkship experiences impact skills performance in an accelerated internship preparation course for senior medical students? Surgery 2010;148(4):768-77.
6. Hoat LN, Son NM, Wright EP. Perceptions of graduating students from eight medical schools in Vietnam on acquisition of key skills identified by teachers. BMC Med Educ 2008;8:5.
7. Peeraer G, Scherpbier AJ, Remmen R, De winter BY, Hendrickx K, van Petegem P, et al. Clinical skills training in a skills lab compared with skills training in internships: comparison of skills development curricula. Educ Health (Abingdon) 2007;20(3):125.
8. Brunt LM, Halpin VJ, Klingensmith ME, Tiemann D, Matthews BD, Spitler JA, et al. Accelerated skills preparation and assessment for senior medical students entering surgical internship. J Am Coll Surg 2008;206(5):897-904; discussion 904-7. Epub 2008 Mar 3.
9. Mario Sičaja, Dominik Romić, Željko Prka. Medical Students' Clinical Skills Do Not Match Their Teachers' Expectations: Survey at Zagreb University School of Medicine, Croatia. Croat Med J 2006; 47(1): 169–175.
10. Silverman E, Dunkin BJ, Todd SR, Turner K, Fahy BN, Sukumaran A, Hagberg C, Bass B. Nonsurgical airway management training for surgeons. SourceJ Surg Educ 2008;65(2):101-8.
11. Rizk DE, Elzubeir M. Identifying core obstetric and gynecologic skills required of, and used by, graduates of the Faculty of Medicine and Health Sciences, United Arab Emirates University. Teach Learn Med 2000;12(2):66-71.
12. Manalo M Jr, Lapitan MC, Buckley BS. Medical interns' knowledge and training regarding urethral catheter insertion and insertion-relatedurethral injury in male patients. BMC Med Educ 2011;11:73.
13. Breckler J, Yu JR. Student responses to a hands-on kinesthetic lecture activity for learning about the oxygen carrying capacity of blood. Adv Physiol Educ 2011;35(1):39-47.
14. Jebbin NJ, Adotey JM. An audit of basic practical skills acquisition of final year medical students in a Nigerian medical school. Ann Afr Med 2012;11(1): 42-5. doi: 10.4103/1596-3519.91021.
15. Kitchen M. Facilitating small groups: how to encourage student learning. Clin Teach 2012;9(1): 3-8.
16. Steinert Y. Student perceptions of effective small group teaching. Med Educ 2004;38(3):286-93.
17. Naylor RA, Hollett LA, Castellvi A, Valentine RJ, Scott DJ. Preparing medical students to enter surgery residencies. Am J Surg 2010;199(1): 105-9.
18. Böckers A, Lippold D, Fassnacht U, Schelzig H, Böckers TM. Ready for the OR? - Clinical anatomy and basic surgical skills for students in their preclinical education. GMS Z Med Ausbild 2011;28(3):Doc45. Epub 2011 Aug 8.
19. Kaur N, Gupta A, Saini P. A needs assessment study of undergraduate surgical education. Natl Med J India 2011;24(5):292-3.
20. Scheffer C, Tauschel D, Neumann M, Lutz G, Cysarz D, Heusser P, et al. Integrative medical education: Educational strategies and preliminary evaluation of the Integrated Curriculum for Anthroposophic Medicine (ICURAM). Patient Educ Couns 2012 Jun 25. [Epub ahead of print]

Address for Corresponding Author:
Dr. Asma Hafeez,
Associate Professor of Anatomy,
Deputy Coordinator Department of Medical Education
Wah Medical College, Mall road, Wah Cantt.
Resident of: House No. 4/C, Officer's Colony,
Wah Cantt, Pakistan.
Phone number: 92-322-5411838
Email address: drasma.hafeez@gmail.com