



INTERNATIONAL JOURNAL OF CLINICAL SKILLS



A Peer Reviewed International Journal for the Advancement of Clinical Skills
- *'docendo ac discendo' - 'by teaching and learning'*



In this issue:

Emotion and concealed motivation in the clinical interview

Peripheral cannulation: what's the benefit and what's important?

Adapting clinical skills training to an Arabian Gulf setting

Role of clinical nurse educators in medical education

Simulation learning in health care

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The International Journal of Clinical Skills looks forward to contributing positively towards the training of all members of the healthcare profession.

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Foreword

Clinical skills change lives...



Dr. Abigail Boys & Regina (October 2010)

Amidst the fast paced achievements in international healthcare and education, it is important not to forget what clinical skills mean in reality for our patients – clinical skills change lives.

After having initiated the charitable society Willing and Abel in 2008, many health care professionals have had the pleasure of using their specialised and expert clinical skills to help children of developing nations requiring specialist surgery. An example is 13 year old Regina who was born with a tumour fatally spreading across her face (congenital lymphangioma) – she successfully underwent major surgery at The Royal London Hospital (United Kingdom) in December 2010 and now continues to lead a normal life in Ghana, West Africa (www.bbctelevision.co.uk).

Such success exemplifies a fundamental strength of the clinical skills community in its ability to evolve and adapt to meet the challenges and expectations of a modern healthcare arena. Healthcare professionals need to have clinical skills training which will allow them to meet present and future challenges, which include an ageing population, multiple morbidities and increasing patient expectations.

There is no doubt that the International Journal of Clinical Skills provides an excellent forum for the global healthcare community to further clinical skills research, as well as advancing the training of students, academics and health professionals. I wish the International Journal of Clinical Skills continued success for its admirable work in this important field.

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Staff and student perceptions regarding a clinical skills laboratory learning experience

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Abstract

Objective: To obtain the views of medical students about clinical skills laboratory training in a private medical college in Lahore, Pakistan.

Design: Cross-sectional descriptive survey.

Setting: This study was conducted with all final year medical students (n = 116) from September 2010 to October 2010 in a private medical institute: Lahore Medical and Dental College, Lahore, Pakistan.

Methods: The training program was delivered in parallel with the traditional lecture based curriculum and comprised 18 clinical skills stations. Students received hands on training from a multidisciplinary clinical faculty. On completion of the clinical skills module both the teachers and the students were asked to fill out a pre-tested structured questionnaire. Participants' responses were rated on a 5-point Likert scale.

Results: The student response rate was 94% (109 out of 116). The majority of the students responded favorably to the skills laboratory learning experience. All of the participating teachers (11 male and 7 female) completed the questionnaire (n = 18). The majority of the teachers were in favour of the clinical skills session.

Discussion: This study researched the perception of both the medical students and the clinical teachers, regarding the first clinical skills training session in a private medical college. The results showed that both the teachers and the students participated enthusiastically in the clinical skills program and both agreed that the program is very effective in learning the specified skills. Most of the students thought that the session was helpful in learning the skills and that their confidence level for the specific skills had improved. This reflects the influence of a hands-on practical teaching program when teaching clinical skills.

Conclusion: The perceptions of graduating medical students reveal the extent of their confidence in the ability of the skills training program to provide them with the skills they are expected to have, in order to start internship.

Introduction

Over the last decade there has been considerable advancement in the use of technology in both medical education and the delivery of healthcare. It is necessary for students to have the opportunity to develop and improve their clinical skills in appropriate teaching environments. Changes in work routines are limiting clinical learning opportunities for medical students in the hospital setting, including reasons such as fewer patients being admitted, short duration of admission of patients and because work routines decrease the available time for teaching in clinical wards [1, 2].

Studies have shown that students perform basic clinical skills poorly in traditional medical curricula and that medical schools cannot rely on clinical ward training to offer students adequate basic clinical skills training [3, 4]. Medical schools throughout the world have therefore established clinical skills laboratories (also referred to as the 'clinical skills lab') to supplement clinical skills training for medical students [5, 6]. It is assumed that clinical skills lab training has a potential to bridge the gap between the classroom and the clinical setting, thereby helping ensure that medical students achieve an adequate level of clinical competence [1].

Medical students have noted that clinical skills lab training makes learning on the clinical wards easier [7]. In several studies it was also noted that students have evaluated clinical skills labs highly [5, 6]. However, setting up and maintaining a clinical skills lab is an expensive undertaking [7]. There is a dearth of data regarding clinical skills laboratory teaching in Pakistan.

This research is a pilot study to investigate students' perceptions about learning clinical skills in a clinical skills laboratory.

Methods

This cross-sectional descriptive survey was first targeted at the 116 final year medical students at Lahore Medical and Dental College (Pakistan), from September 2010 to October 2010.

The students (n = 116) were divided into 6 groups and attended a '6 hours per week' clinical skills training program for 8 consecutive Saturdays. The training program was delivered in parallel with the traditional lecture based curriculum and comprised of 18 clinical skills stations. The average ratio of student to teacher was 10:1. All of the teachers were trained prior to each clinical session with written information, technical skills demonstrations, as well as video presentations.

Following a step-wise demonstration by the teachers, the students were given the opportunity to practice the skills on manikins and simulators, under supervision. Students received hands on training from multidisciplinary faculty staff, including teachers from specialties such as Surgery, Medicine, Anesthesiology, Pathology, Gynecology, Pediatrics and ENT (Table 1). Percentage distribution of skills taught by each speciality is shown in Figure 1.

Figure 1: Percentage distribution of skills taught by each speciality

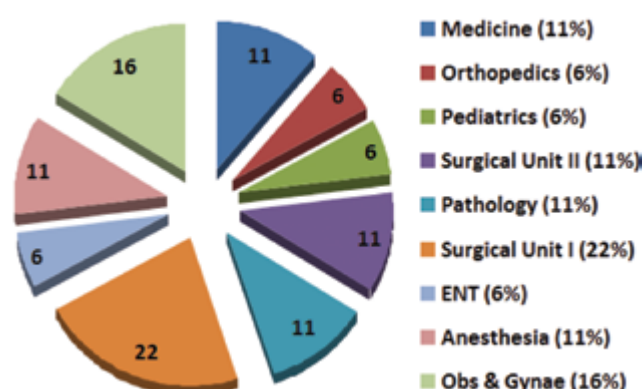


Table 1: Student groups and departmental allocation to the various clinical skills

Groups	Skill Number	Skill Description	Department
1	1	Basic life support	Medicine
	2	Blood pressure measurement	
	3	POP & bandages	Orthopedics
2	4	Venous cannulation	Pediatrics & Surgical Unit II*
	5	Injections	
	6	Sutures & knots	
3	7	Blood sampling	Pathology & Surgical Unit I*
	8	FNAC	
	9	True cut biopsy	
4	10	Tracheostomy	ENT
	11	Endotracheal intubation	Anesthesia
	12	Lumbar puncture	
5	13	Venous cut down	Surgical Unit I*
	14	Aseptic measures	
	15	Foley's catheterization	
6	16	Episiotomy	Obstetrics & Gynecology
	17	Normal, Instrumental and	
	18	Breech delivery	

*The Department of Surgery at LM&DC consists of two subdivisions (Unit I and Unit 2) each with independent staff

On completion of the module the students were asked to complete the pre-tested structured questionnaire. Participation in the survey was voluntary and anonymous. An initial pilot questionnaire had been conducted with 20 medical students to make any necessary modifications to the study questionnaire.

The second part of the study involved survey of the teaching faculty staff in order to assess the teachers' experiences regarding the clinical skills lab training sessions. The response rate from the faculty staff was 100% (n = 18).

Participants' responses to the questionnaire were rated on a 5-point Likert scale ranging from 1 = strongly disagree, to 5 = strongly agree. The questionnaire also included open ended responses. Data was analysed using Microsoft® Excel (97-2003).

Since this study involved only students' perceptions in an academic setting and was anonymous (refer to Regulations and Ethical Guidelines, Title 45cfr46, Protection of Human Subjects, Revised June 2005: <http://ohsr.od.nih.gov/guidelines/45cfr46.html>) formal ethical approval was not required.

Results

109 out of 116 of students completed and returned the survey (response rate of 94%). Two survey proformas were excluded from the study as the majority of the answers to questions were absent or incomplete (n = 107).

As can be seen from Table 2 the majority of students responded favorably to the clinical skills laboratory learning experience.

Review of open ended questions revealed that the students were of the opinion that a few additional skills could be added to the current list of skills being taught on the module; they did not, however, elaborate with respect to which skills could be added. One student commented that repeat sessions should be given for students absent from the initial course.

Table 2: Student responses regarding their perception of learning skills in the clinical skills laboratory, on a Likert scale (n = 107)

Serial No.	Questions regarding skills session	Strongly disagree		Disagree		Don't know		Agree		Strongly agree	
		n	%	n	%	n	%	n	%	n	%
1	Time duration was sufficient	3	2.80	9	8.41	1	0.93	59	55.14	35	32.71
2	Exercises were helpful in learning skills	1	0.93	2	1.87	1	0.93	45	42.06	58	54.21
3	Environment was conducive to learning	1	0.93	2	1.87	0	0.00	52	48.60	52	48.60
4	Workshop started on time	1	0.93	12	11.21	4	3.74	49	45.79	41	38.32
5	Attitude of staff was encouraging	1	0.93	3	2.80	2	1.87	46	42.99	55	51.40
6	Quality of video presentation was good	0	0.00	12	11.21	6	5.61	58	54.21	31	28.97
7	Arrangements were 'up to the mark'	0	0.00	4	3.74	3	2.8	55	51.40	45	42.06

All the participating faculty staff members completed the questionnaire (n = 18). There were 11 male and 7 female teachers. The group of clinical staff responsible for teaching the skills to the students included Assistant and Associate Professors.

As Table 3 shows the majority of the teachers responded favorably to the clinical skills lab experience.

Table 3: Faculty staff responses regarding their perception of the clinical skills teaching sessions in the skills laboratory (n = 18)

Serial No.	Questions regarding skills session	Strongly disagree		Disagree		Don't know		Agree		Strongly agree	
		n	%	n	%	n	%	n	%	n	%
1	Adequate information was provided	0	0.00	2	11.11	1	5.56	9	50.00	6	33.33
2	Session was effective in teaching skills	0	0.00	0	0.00	0	0.00	11	61.11	7	38.89
3	Environment was conducive for students learning	0	0.00	0	0.00	0	0.00	12	66.67	6	33.33
4	Time management was adequate	0	0.00	1	5.56	0	0.00	10	55.56	7	38.89
5	Administrative staff was supportive	0	0.00	0	0.00	0	0.00	7	38.89	11	61.11
6	Teaching tools were adequate	0	0.00	1	5.56	0	0.00	9	50.00	8	44.44
7	Participation was better than traditional teaching	0	0.00	0	0.00	0	0.00	10	55.56	8	44.44

Discussion

Provision of quality healthcare requires a multi-dimensional and multi-disciplinary approach. However, one of the most important single determinants for quality healthcare provision is the competence of the medical practitioner; in order to ensure training of competent doctors, the practice of competency-based medical education has gained popularity across the globe [7].

Skill lab training facilities allow structured training of undergraduate medical students for the acquisition of clinical

skills in a simulated, safe and sheltered learning environment [8]. Student perceptions regarding the environment, in which clinical skills are learnt, can provide evidence to convince teachers of the importance of teaching 'outside the classroom' [9].

This study therefore aimed to document the perceptions of both medical students and clinical teachers first clinical skills training session in a private medical college in Pakistan. The results of the study show that both the teachers and the students participated

enthusiastically in the clinical skills program and that both groups agreed that the program is very effective in learning the specified skills. The results are in accordance with a similar study conducted by Hoat et al (2008) [9]; the objective of the latter study was to determine the perception of graduating students regarding whether they had achieved the level set for a selection of clinical and public health skills, as a guide for the schools to adjust either the levels or the teaching.

Most of the students thought that the program was helpful in learning the clinical skills and they felt that their confidence level for the specific skills improved. This result reflects the influence of a hands-on practical teaching program, in teaching clinical skills. The concept of teaching practical skills in the past only applied to teaching laboratory skills, but now most schools wish to develop a 'new style' skills laboratory for practice of clinical and other skills [8].

In this study, feedback from outgoing final year students and clinical faculty staff made it possible to identify the discrepancies between the conventional class room teaching and what the students thought they had achieved after the clinical skills session. A similar study was conducted by Alhaqwi et al (2010) [10] which explored medical students' and teachers' views of the types of experiences and activities that contributed to students' clinical competence. At the end of the latter study, the authors concluded that several factors effect the student's learning experience and these factors can be considered when planning and developing medical curricula, to promote effective clinical rotations and thereby enhance students' learning experiences.

Limitations

The sample size was relatively small and the study was conducted at a private medical college, therefore generalization of the results has to be taken into context.

Although student's self assessment alone is unreliable as a measure of the 'real' achievement of skills learning [11], in this study it was not possible to carry out a more objective assessment, such as Objective Structured Clinical Examination (OSCE), to evaluate whether the students had actually achieved the required competency level. We therefore asked the students to assess themselves with regards to the level of expertise they achieved in specific clinical skills, that their teachers considered essential, and simultaneously we recorded the teachers' subjective assessment.

Future Recommendations

The close and competent supervision of learners is of pivotal importance in ensuring high quality clinical skills training, since the performance of skills without supervision and feedback may serve to increase personal confidence, but not competence. In light of this, and as reported by the students in this study, future sessions should be conducted with smaller student to tutor ratios, and incorporated into the regular student time-tables. The skills list should be increased and spread over three clinical years according to the level of clinical maturity of the student as reported by Weyrich et al (2008) [8].

The literature contains similar studies to this one, regarding student perceptions of their learning environment, in countries

such as Germany [8], Vietnam [9] and India [12]. Our study is the first of its kind within our city, Lahore, Pakistan. This study should be replicated on a larger sample of students; similar to a study by Moulton et al (2006) [11]; we intend to do an objective assessment on student's competency level, after the skills training program, in our future clinical skills research.

Conclusion

This pilot study shows that skills laboratory learning was rated very favorably by the medical students and the faculty staff, at a medical institute which had no prior clinical skills training facility. The perceptions of graduating students reveal the extent of their confidence in the ability of the training program to provide them with the skills they are expected to have, prior to starting their clinical work, such as internship. Future studies should include objective assessment of such teaching modalities.

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