

Use of Simulated Patients for Assessment of Communication Skills in Undergraduate Medical Education in Obstetrics and Gynaecology

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ABSTRACT

Objective: To compare the effectiveness of simulated patients with real patients through undergraduate students' results of Mini-Cex encounters and their opinions.

Study Design: Mixed method (combined qualitative and quantitative).

Place and Duration of Study: Shifa College of Medicine / Shifa International Hospital, Islamabad, during the year 2010.

Methodology: The study included all 94 students of 4th year MBBS at Shifa College of Medicine. Their communication skills in history taking and counselling were assessed using first real patients and then simulated patients. The quantitative data was gathered from results (scores obtained) of the two encounters and was analyzed using SPSS version 10. It was interpreted as mean and standard deviation, and independent sample T-test was used to statistically determine the difference between the two results. The qualitative data was obtained from student interviews. The two forms of data was collected and analyzed for triangulation contributing towards validation of the results and to have deeper insight into the relevant phenomena.

Results: The results of history taking with real patients and simulated patients showed no significant difference ($p = 0.158$). Likewise, results of counselling with real and simulated patients did not show a significant difference ($p = 0.306$). The results of student interviews showed that 92/94 students (97.9%) were in favour of using simulated patients for the assessment of communication skills. Sixty-one (64.9%) were of the view that there was no difference between real patients and simulated patients. Ninety-one students (96.8%) agreed that simulated patients provided motivation and 62 (66%) indicated that simulated patient encounter was not difficult.

Conclusion: Undergraduate students were more in favour of using simulated patients encounters for evaluation of communication skills. There were no significant difference between students performance on real and simulated patients.

Key words: *Simulated patients. Assessment. Communication skills. Undergraduate medical students. Direct observation assessment. Mini-Cex encounter.*

INTRODUCTION

Assessment is a powerful driver of learning. Assessment tools allow measurement of student achievement and enable teachers to make systematic judgments about progress and achievement.¹ Assessment in medical education can involve real patients or simulated patients to assess performance. However, in Obstetrics and Gynaecology there is paucity of comparative studies on simulated patients and real patient encounters for assessment of communication skills of undergraduate medical students.

Mini-Cex (Mini-Clinical evaluation exercise) is a 10 – 20 minute direct observation assessment of a trainee-patient interaction. It is a rating scale developed by the American Board of Internal Medicine in 1990 to assess

core competencies of residents including history taking and counselling skills.

Simulated or standardized patients have been used in medical education and other medical settings for some 30 years. Their use encompasses undergraduate and postgraduate learning, the monitoring of doctor's performance and standardization of clinical examinations. The first known effective use of simulated patients was by Barrows and Abrahamson (1964), who used them to appraise students' performance in clinical neurological examinations.²

A standardized patient has been described as an umbrella term for both; an actual patient who is trained to present his or her own illness in a standardized way and a simulated patient is a well person trained to portray an illness in a standardized way.^{3,4}

Briefing and training of simulated patients is critical to the success of the program.^{5,6} The range of clinical problems that simulators can reproduce is wide and varied, but training is essential to make their performance as lifelike as possible. Standardization has two components; the validity or accuracy of performance

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Received March 19, 2011; accepted September 28, 2011.

and the reliability or consistency of performance when faced with different examinees.^{7,8}

The study may, therefore, prove important in contributing to the area of research related to the use of simulated patients for the assessment of communication skills in undergraduate students.

The objective of the study was to compare the effectiveness of simulated patients with real patients through student result of Mini-Cex encounters and their opinions.

METHODOLOGY

The study was undertaken using a combined quantitative and qualitative approach. A non-probability sample in which whole population (94 students) of 4th year MBBS students at Shifa College of Medicine were included who were going through clerkship in Obstetrics and Gynaecology during the year 2010. They were divided into 8 groups, each consisting of approximately 12 students. The communication skills of the students in history taking and counselling were assessed through Mini-Cex by using both real and simulated patients. The assessment was conducted by first using real patients and then simulated patients. The raters were the faculty members of Obstetrics and Gynaecology Department and remained the same for both sets of assessment. A week before the clerkship the participants were notified about the importance of their inputs in the study. The study was undertaken after informed consent of the participants. Nursing students of Shifa College of Nursing, Islamabad were used as simulated patients. They were trained to act as simulated patients for Mini-Cex to assess the history taking and patient counselling aspects in communication skills.

The preceptor who was conducting assessment on real patient did not know the scores of the student on simulated patients and vice versa.

Standard Mini-Cex forms developed by the faculty for assessment of the students were used. Students were assessed separately in history taking and counselling and marked on a score from 1 – 10.

The quantitative data was gathered from the assessment results of student communication skills using real and simulated patients, and was analyzed using Statistical Package for Social Sciences (SPSS) version 10. The data was interpreted by using independent sample T-test, comparing the means. After the exercise, students were subjected to open ended interviews using a pre-established interview guide. The qualitative data obtained from students interviews was converted into themes through content analysis and interpreted as percentage distribution. The two forms of data was analyzed and interpreted for validation of the results.

All data sources were accessed after getting informed consent. The anonymity / confidentiality and rights of the participants were protected taking care of all plausible ethical considerations.

RESULTS

Assessment results of students' communication skills in history taking and counselling with real and with simulated patients, did not show much difference, thereby supporting the fact that simulated patients can be used in place of real patients for the assessment of communication skills.

Table I shows that students obtained better scores when their history taking skills were assessed with simulated patients - 35.1% of the students scored between 7-10 marks when taking history of simulated patients, as against 26.6% who scored between 7-10 marks when taking history of real patients (RP).

Similarly, the percentage of students who scored between 7-10 marks when simulated patients (SP) were used for assessment of counseling skills was higher.

Table II shows basic descriptive statistics and independent sample T-test (p-value).

Table I: Assessment results of students history taking and counselling skills with real patients and simulated patients.

Variables	Scores / percentage		
	1-3	4-6	7-10
History taking RP	8.5%	64.9%	26.6%
History taking SP	5.3%	59.6%	35.1%
Counselling RP	12.8%	72.3%	14.9%
Counselling SP	8.5%	73.4%	18.1%

Key: RP= Real patient; SP= Simulated patient

Table II: Basic descriptive statistics and independent sample T-test (p-value).

Variables	Mean of variables ±SD	T-test (p-value)	N
History taking RP	2.181± 0.567	0.158	94
History taking SP	2.297± 0.565		94
Counselling RP	2.021± 0.528	0.306	94
Counselling SP	2.095± 0.465		94

The quantitative data gathered from the assessment results of students communication skills of history taking with real and simulated patients was analyzed using independent sample T-test, which indicated that there is no significant difference between the means of two variables mentioned above (p=0.158). The assessment results of students for communication skills in counselling with real and simulated patients also showed no significant difference between the means of the two variables mentioned above (p=0.306).

Table III shows the results of student interviews converted into themes through content analysis and percentage distribution. These themes in the form of questions were:

1. Should SP be used frequently?
2. Is there a difference between RP and SP?
3. Does SP provide motivation?
4. Is SP difficult?
5. Is SP easier than RP?

Table III: Student responses in terms of percentage and frequency.

Questions	Agree * N=94		Disagree N=94		Uncertain N=94	
	Frequency	Percentage	Frequency	Percentage	Frequency	Percentage
Difference between RP and SP	13	13.8	61	64.9	20	21.3
SP provide motivation	91	96.8	-	-	3	3.2
SP difficulty	6	6.4	62	66	26	27.6
SP easier than RP	12	12.8	31	33	51	54.2
SP be used frequently	92	97.8	1	1.1	1	1.1

*N=Total number of students of 4th year Class=94

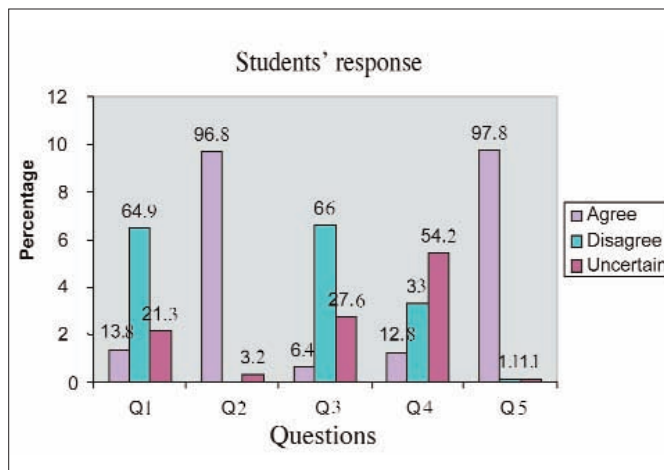


Figure 1: Student responses against questions and percentage distribution Questions:

- Q1. Is there a difference between RP and SP?
 Q 2. Does SP provide motivation?
 Q 3. Is SP difficult?
 Q 4. Is SP easier than RP?
 Q 5. Should SP be used frequently?

The results showed that 92/94 students (97.8%) were in favour of using simulated patients frequently for the assessment of communication skills. Sixty-one students (64.9%) were of the view that there was no difference between real patients and simulated patients. Ninety-one students (96.8%) were of the opinion that simulated patients provided motivation, 62/94 (66%) indicated that dealing simulated patient encounter was not difficult. Twelve point eight percent indicated that dealing simulated patients was easier than real patients (Figure 1).

Independent T-test found no significant difference in the assessment results using either real patients or simulated patients. Likewise, the responses of the student interviews also indicated that majority of them did not find any difference between the real patient and simulated patient encounters.

DISCUSSION

The study was conducted to compare the effectiveness of simulated patients with real patients for the assessment of communication skills in undergraduate medical students in Obstetrics and Gynaecology.

In Obstetrics and Gynaecology, the unique focus on history taking, communication about sensitive issues

and counselling of women patients provide challenges to undergraduate medical education. Moreover, the real patients admitted to hospital wards, on average tend to be less available in some situations. Real patients are sometimes not willing to participate in an examination where they are exposed to a large number of students. Patient's behaviour is unpredictable; their ability to communicate is different, their signs change and their overall condition may deteriorate.

Simulated patients were thus used with real patients for the assessment of medical students. No significant differences emerged in the results of the two encounters thereby providing support to the use of simulated patients.

Simulated patient is a well person trained to portray an illness in a standardized way.^{3,4} Briefing and training of simulated patients is critical to the success of the program.⁵ Standardization has two components; the validity or accuracy of performance and the reliability or consistency of performance when faced with different examinees.⁶⁻⁸

In this study, nursing students of Shifa College of Nursing, Islamabad, were trained to act as simulated patients which resulted in a more consistent response in the examination than the real patient, allowed multiple examinations and thus more standardization.^{9,10} The risk that the performance by the student during examination may be disturbing to the real patient was not a problem with simulated patients.⁸ Simulated patients were readily available than real patients and could be relied upon to be present at the examination.¹⁰⁻¹² Simulated patients offer students an opportunity to learn and practice communication skills, history taking and counselling in a supportive, low risk and authentic environment.^{13,14} However, the process of training of simulated patients was time-consuming, as documented in other studies.¹⁵

All students of 4th year MBBS, going through clerkship in Obstetrics/Gynaecology were assessed for communication skills in history taking and counselling through Mini-Cex. First, these skills were assessed using real patients and in the subsequent Mini-Cex simulated patients were used. The scores of the two encounters were compared. No significant differences were observed.

In the clinical assessment, there are three variables - the student, the examiner and the patient. The aim is to standardize the examiner and the patient so that the student's performance/clinical competence can be measured accurately.^{16,17} This was achieved through training of simulated patients for assessment of communication skills.^{18,19}

At the end of the examination, structured interviews were conducted and the reports of student experiences were all positive. Many valued the insights and confidence gained from practicing skills on simulated patients during assessment. The finding was similar to the literature reviewed.^{20,21}

Results of student interviews also highlighted that majority of the students prefer simulated patients to real patients for the assessment of communication skills.

The study was confined only to the 4th year students of Shifa College of Medicine, Islamabad. It covered only the 'communication skills' aspect of performance assessment in one specialty i.e. Obstetrics and Gynaecology.

The limitations are that it cannot be generalized to all areas of undergraduate medical education. The findings of qualitative data may be subject to different interpretations. Nursing students have been trained and used as simulated patients instead of volunteers from general population.

CONCLUSION

Undergraduate students were more in favour of using simulated patients for evaluation of communication skills. There were no significant difference between students performance on real and simulated patients.

Disclosure: The article was written for partial fulfillment for award of MCPS - Health Professions Education.

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