

Educational benefits of engaging simulated patients for interviewing by medical students in undergraduate Adolescent Medicine posting, at NDUM, Malaysia

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Abstract

Introduction: An innovative program of engaging adolescent aged simulated patients in Adolescent Medicine posting had been implemented. This paper is to add on, our experiences to the scarce data on simulated patients (SPs) and acquiring interviewing skills, especially in the field of undergraduate adolescent medicine curriculum in Malaysia.

Objective: To evaluate the educational benefits of engaging simulated patients for interviewing by Year 3 medical students at National Defence University of Malaysia (NDUM).

Outcomes measures:

Consist of, Self-rated knowledge; Interviewing skills; Performance & Professionalism at interview; in the students and Performance of SPs at interview.

Methodology: Forty-four third year medical students participated in a cross-sectional study from September 2013 – May 2014. Firstly, students in peer group pairs underwent the interviewing process at start of respective postings, after a briefing and series of lectures on core Adolescent Health topics. A total of six SPs were recruited for engagement for interviewing by all students in 4 groups in a simulated Adolescent Health Clinic setting. The SPs, students and faculty teachers completed the 3 sets of validated questionnaires after each session respectively. A 4- point Likert's scale was used to rate the responses. All of the 5 faculty teachers in Pediatrics and Adolescent Medicine had participated in the program. Outcome measures were analyzed before exposure to and during engagement with SPs.

Result: Forty-four third year medical students, during engagement with SPs sessions category, had significantly improved in their confidence in interviewing/ history taking ($p=0.001$), performance in doing interview (communication skills) ($p=0.0005$), in the ability to demonstrate skills in interviewing regarding good attitude and professionalism ($p=0.009$), and in the ability to detect body cues ($p=0.0005$) when compared to the 'pre exposure' to SPs sessions category..

Conclusion: Engagement with simulated patients have shown to be beneficial for acquiring interviewing skills by students in the adolescent medicine posting. This had enhanced their development of communication skills in their clinical posting.

Keywords: Engaging simulated patients, interviewing skills, and undergraduate adolescent medicine

Article

'To study the phenomenon of disease without books is to sail an uncharted sea, while to study books without patients is not to go to sea at all.' Sir William Osler

In Malaysia, the adolescent population constitutes 19.2% of the population (Yearbook of Statistics Malaysia, 2009). The Malaysia National Adolescent Health Plan of Action (2006 – 2020) includes five priority areas such as physical and mental health issues, sex and reproductive health issues, nutritional health, eating disorders and risky health behaviors. Adolescence is a time of life when they develop habits that put them at higher risk for future chronic health concerns. Adolescents frequently tend not to share personal issues with their health care providers, thus communication with the adolescent patient requires unique skills on the part of the medical doctor. Therefore, medical schools should take on the responsibility of teaching their students how to interact with and treat adolescents.

The idea of learning from the patient is one that has been around for some years (Casement, 1985). The earliest examples of active patient involvement in teaching are interventions in which the patient was an instructor of clinical skills (Barrows & Abrahamson, 1964). In these programs, now commonplace, patients teach students how to conduct physical examinations and provide feedback (Stillman et al., 1980).

Need for Innovative Program: There are only 2 Medical Universities in Malaysia that has included the Adolescent Medicine component as a module in Undergraduate Paediatrics posting curriculum. Other Medical Universities, only include few topics in their curriculum However, at NDUM at the start of implementation of the Year 3 clinical postings, there had been no Adolescent health clinics facilities at the affiliated teaching hospital. The objectives of the Adolescent Medicine Module included (1) Know and understand the meaning of Adolescence and Importance and need for its inclusion in Pediatrics posting (2) Able to interview the adolescent aged patients using HEADSSS acronym (3) Be familiar with core Psychosocial problems the adolescents usually encounter in their daily lives. Therefore, the NDUM Educational committee gave their blessings for the development and implementation of the Innovative Program which is the engagement of simulated patients (adolescent aged teenagers) for interviewing by the Year 3 medical students posted to Paediatrics in 4 groups in rotation through the academic year, in order to achieve the Module objectives in the interim period before the real adolescent health clinic facilities will be available.

The aim of this program is: To engage simulated patients for interviewing by Year 3 medical students in undergraduate Adolescent Medicine Posting at NDUM. However, the literature on the involvement of simulated patients, for teaching learning processes, in undergraduate Adolescent Medicine to medical students in Malaysia is extremely limited. This paper is to add on our experiences on the engagement of simulated patients with medical students through a basic clinical interview and history taking using HEADSSS acronym.

Objective of this paper is: To evaluate the educational benefits of engaging simulated patients for interviewing by medical students.

OUTCOMES MEASURES consist of, Self-rated knowledge; Interviewing skills; Performance & Professionalism at interview; in the students and Performance of SPs at interview.

Methodology

Study design:

A cross sectional study was conducted during undergraduate Paediatrics and Adolescent Medicine clinical posting for 2013-2014 (1st September 2013 to 31st July 2014) academic year at NUDM.

Study sample:

All 44 students (23 males and 21 females) in Year 3 were registered, and posted in rotation (8 weeks duration) in four subgroups.

Six simulated patients of adolescent age group were recruited from the pool of simulated patients at NUDM. They had been trained to portray a variety of core psychosocial issues usually encountered by adolescents, using structured scenarios created by the faculty.

All of the 5 faculty teachers at the Paediatric and Adolescent Medicine department participated in the program. The faculty teachers involved have many years' experience in teaching and evaluating students, including adult simulated patients for early clinical exposure sessions for history taking and clinical examination in preclinical years of the medical program.

Instruments used in program

During the period of study three set of questionnaires were used to collect data from students,

SPs and teachers.

Questionnaire 1 - the students were given a 6-item questionnaire to provide feedback on the simulated patient performance and the benefits gained their experience;

Questionnaire 2 – the simulated patients were given a 15-item questionnaire to provide feedback on the student's interviewing & communication skills.

Questionnaire 3- the teachers involved in the program were each given a 10 item questionnaire to provide feedback on the students' and simulated patients' performances.

A 4-point Likert's scale (1 = complete disagreement; 2 = somewhat disagree; 3 = somewhat agree; 4 = complete agreement) was used to measure the responses. The questionnaires were pretested to ensure face validity.

Implementation of the study

At the start of the posting, after a briefing and a series of lectures on core Adolescent Health topics, the students had their first experience in interviewing and history taking skills by interviewing their own peers, in pairs; using the HEADSSSSSS acronym. Their performance on interviewing had been evaluated by the other of the pair, using the variables in the questionnaire. The results are placed in category of "Pre-exposure to SP". Subsequently the students interviewed the SP at the simulated Adolescent Health Clinic settings, using the same acronym. The SPs evaluated the students' performance in their interviewing skill by providing feedback using the validated questionnaire. The results are placed in, during engagement with SP category.

All the students and faculty teachers, who are involved in the study, evaluated the performances of SP during the engagement using the Questionnaires.

The outcome measures of Self-rated knowledge; Interviewing skills; Performance & Professionalism at interview; in the students and Performance of SPs at interview were analyzed using SPSS (version 19.0).

Results

A total of forty-four (100%) year 3 medical students posted in 4 subgroups, in rotation, to the Paediatrics and Adolescent Medicine module participated in the study. There were 23 (52.3%) male students and 21 (47.7%) female students. Their age ranges from 21-22 years with the mean age of 21.4 ± 0.2 years.

All 44 students had completed the structured questionnaire.

Self-rated knowledge: Students had significantly stated ($p=0.048$), that the simulated patients had helped them in their understanding of the core psychosocial issues usually faced by adolescents through the interviewing process (Table 1).

Table 1. Self-rated knowledge by students on understanding core issues faced by adolescents.

Item	Grp 1 (N=11)		Grp 2 (N=12)		Grp 3 (N=10)		Grp 4 (N=11)		p value
	x	sd	x	sd	x	sd	x	sd	
Help me in understanding the psychosocial issues faced by the adolescent	3.7	0.6	3.3	0.5	3.5	0.5	3.1	0.4	0.048*

(x=mean, sd=standard deviation) (*p significant (<0.05))

Interviewing skills: Students had stated that the simulated patients had helped them in their interviewing techniques i.e. communication skills through the interviewing process. (Table 2).

Table 2. Student's self-rated response on their interviewing skills during engagements with SPs.

Item	Grp 1 (N=11)		Grp 2 (N=12)		Grp 3 (N=10)		Grp 4 (N=11)		p value
	x	sd	x	sd	x	sd	x	sd	
Help me in my communicating skill during interviewing process	3.7	0.4	3.0	0.5	3.5	0.5	3.2	0.5	0.006*

(x=mean, sd=standard deviation) (*p significant (<0.05))

Performance & Professionalism at interview: As shown in Table 3, the simulated patients had stated that the student (s) had been able to interview/take history confidently in order to elicit the psychosocial issue(s) in hand when they (SP) had portrayed the structured case.

Table 3. Performance and Professionalism shown at interview by students according to SPs' responses. (1=complete disagreement; 2=somewhat disagree; 3=somewhat agree; 4=complete agreement)

Item	1 (N)	2 (N)	3 (N)	4 (N)
1 Can clearly convey exactly what sort of information he/she is looking for	0	0	35	9
2 Had obtained the relevant information pertaining to health issue.	0	3	33	8
3 Had been able to recognize the body cues even when it is at variance with the spoken words given by me (simulated patient)	0	7	32	5
4 The student is able to communicate effectively with the patient (simulated).	0	6	30	8
5 Had reassured that everything said will be kept confidential	0	0	34	10
6 Had keenly listened for the essence in order to understand the patients	0	0	24	20
7 Had acted like a doctor to be and was not judgmental or patronizing	0	0	35	9
8 Had made the simulated patient feel important and respected	0	3	30	11
9 Had shown empathy	0	0	21	23

Table 3 shows that that 93.1% of medical students had demonstrated good attitude and professionalism during the interview sessions. All medical students (n=44; 100%) had shown good attitude in ‘ensuring everything said will be kept confidential’

The SPs reported that all medical students (n=44; 100%) could clearly convey exactly what sort of information he/she is looking for during the interview/history taking session.

The SPs also reported that a significant proportion (n= 38; 86.3%) of the students demonstrated good interviewing skills and they are able to communicate with the SPs.

Performance of SP at interview: As shown in Table 4, the simulated patients were able to portray realistically and had given students an opportunity to interview them but the level of performance, although positive, differed significantly according to the four groups of students.(Table 5)

Table 4. Performance of SPs at interview according to all the students.

Items	N	Mean	SD
1. Can clearly convey exactly what he/she is experiencing like a real patient.	44	3.6	0.7
2. Can provide relevant information so that the student would be able to identify the health issue at hand.	44	3.5	0.5
3. Can portray the key features present in that particular health issue.	44	3.6	0.7
4. Had included some bodily cues so that the student could easily pick up.	44	3.7	0.6
5. Had acted just like an adolescent with particular health issue.	44	3.7	0.6
6. The simulated patient is able to portray and communicate effectively to the students (doctor to be).	44	3.4	0.5
7. Can clearly convey exactly what he/she is experiencing like a real patient.	44	3.6	0.7

Table 5. Performance of SP at interview according to the four groups of students respectively. (One-way ANOVA)

Item	Grp 1 (N=11)		Grp 2 (N=12)		Grp 3 (N=10)		Grp 4 (N=11)		p value
	x	sd	x	sd	x	sd	x	sd	
(had shown) Very good and very authentic role playing	3.7	0.6	3.3	0.6	3.5	0.5	3.1	0.5	0.050*

(x=mean, sd=standard deviation) *p significant (<0.05)

As shown in Table 6, all the five teachers involved in the study gave a high score of rating (3.0-3.6) in response to the 10 items regarding the performance of the SPs respectively.

Table 6. Rating on performance of the SPs by the teachers

Items	N	Mean	sd
1. Simulated patient appears authentic	5	3.6	0.4
2. Simulated patient could be a real patient	5	3.4	0.5
3. Simulated patient is clearly role playing	5	3.6	0.4
4. Simulated patient stay in his/her role all the time	5	3.4	0.5
5. Simulated patient can provide relevant information so that the student would be able to identify the health issue at hand.	5	3.4	0.5
6. Simulated patient can portray the key features present in that particular health issue.	5	3.2	0.6
7. Simulated patient has included some bodily cues so that the student could easily pick up.	5	3.0	0.4
8. Simulated patient answer question in natural manner	5	3.4	0.5
9. Simulated patient stimulate student to ask question	5	3.0	0.4

10. Simulated patient is able to portray and communicate effectively to the students	5	3.2	0.6
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Table 7 provides the information on performance of the SPs. All the faculty teachers (N=5) and students (N=44) participating in the study reported that the SPs were able to facilitate acquisition of interviewing skill by the students. However, the faculty teachers had given a higher mean score than the students and the difference was significant ($p < 0.016$).

Table 7. Overall rating on performance of the SP by the teachers and students

Item	Teacher N=5		Students N=44		p value
	Mean	SD	Mean	SD	
Overall rating on performance of the simulated patient, on a 10-point scale.	8.1	0.5	7.3	0.7	0.016*

Table 8 shows the students’ response and the differences in the scores of the variables in the two

Categories, ‘pre exposure to SPs’ and ‘during engagement with SPs’ sessions, at the simulated Adolescent Health Clinic settings. The students during engagement with SPs sessions category, had significantly improved in their confidence in interviewing/ history taking ($p=0.001$), performance in doing interview (communication skills) ($p=0.0005$), in the ability to demonstrate skills in interviewing regarding good attitude and professionalism ($p=0.009$), and in the ability to detect body cues ($p=0.0005$) when compared to the ‘pre exposure to SPs’ sessions category..

Table 8. Performance of the students at interview session at “pre-exposure to SP” session and “during engagement with SPs” sessions.

Variables	*Pre exposure to SPs (n=44)	**During Engagement with SPs (n=44)	p-value (sig at $p < 0.05$)
Confidence in doing interview	3.0 (0.3)	3.3 (0.5)	0.001
Performance during interview (communication skills)	3.1 (0.6)	3.5 (0.4)	0.0005
Performance and Professionalism during interviewing process	3.1 (0.4)	3.3 (0.3)	0.009
Ability to detect body cues	2.9 (0.3)	3.3 (0.6)	0.0005

*First Interview session between a pair of students with one giving the feedback on the other student doing the interview using Questionnaires

** Second Interview session during engagement between student and SP with SP giving the feedback using Questionnaires.

Discussion

Interacting with real patients, who experience health conditions or receive health care, or both, should be central to the medical education and training of the medical students who will treat them. Teaching

fundamental clinical skills especially the communication/interviewing skills for history taking, should be a priority in medical school curricula, in keeping with the importance of mastering the clinical skills in the clinical year (Deveugele et. al., 2005). However, in the face of lack of real adolescent health clinics facilities at the affiliated teaching hospital and in order to achieve the objectives of the Adolescent Medicine module, an innovative program with simulated patients had been implemented in the initial year of the Adolescent Medicine posting for the respective 4 groups of students at National Defence University of Malaysia (NDUM).

According to Casement (1995) and Kelly and Wykurz (1998), choosing the most suitable trainer for communication skills is not easy. It is supported by Soe Soe Aye & Mohd Azhar (2014) that the training and engagement of simulated patients remains a challenge. Thus, a more in depth study had been carried out at NDUM to evaluate the educational benefits of engaging stimulated patient for history taking through interview technique, by the medical students.

From this study it has been shown in (Table 8) that by engaging with the simulated patients, the student had demonstrated improvement in their interviewing skills and their confidence in doing interview. Our findings supported the earlier study by Kelly and Wykruz (1998), who reported that patients might successfully contribute as teachers in the training and development of the students in their communication skills. The findings in Table 3 suggest SPs had significantly facilitated development of the students' interviewing skills and played a valuable role as facilitators in teaching communication skills specifically in adolescent medicine curriculum.

Engaging simulated patient as a facilitator in undergraduate education offers students many additional and valuable benefits namely in encouraging empathy and understanding; motivating students to learn; in encouraging the student to gain in confidence; and in giving them and enhancing their knowledge of professional roles and responsibilities and the illnesses they need to recognise and treat. The simulated patients are able to facilitate the students to develop their professional skills, attitudes and interviewing skills.

According to Hasman et al (2006), trained simulated patients are a valuable resource as potential teachers in all stages of medical education. From our study, we also share similar opinion. Therefore, it is important to carefully and further explore the opportunities for engaging simulated patients as facilitators for acquiring effective interviewing/ communication skills by undergraduate medical students, particularly for understanding some core psychosocial health issues commonly encountered in Adolescence.

Conclusion

Engaging simulated patients has important educational benefits for learners (medical students). Simulated patients offer unique qualities that can enhance the acquisition of interviewing/communication skills and change in attitudes towards patients. The clinical implications of the study have indicated that the engagement of simulated patients as facilitators in facilitating effective interviewing/ communication skill in adolescent medicine curriculum is desirable, feasible and welcomed by National Defence University of Malaysia (NDUM). The study concluded that engaging adolescent aged simulated patients as facilitators in facilitating interviewing skills to medical students in adolescent medicine posting is effective in improving confidence in communication and history taking and had been useful to enhance adolescent medicine training in the undergraduate Pediatrics and Adolescent Medicine posting at NDUM. Thus, offers an attractive, alternative and complementary teaching opportunity to be included in the medical education training across the country especially in situations where real live adolescent patients are not readily available for effective interviewing purposes.

The practice points (educational benefits) from the outcome of our study are shown in Box 1.

Box 1: Educational benefits of engaging simulated patients

For students	<ul style="list-style-type: none">• Encouraged gain in confidence in history taking and interviewing/communication skill• Improved the acquisition of skills in interviewing/communicating and history taking• Provided motivation to learn
For faculty teachers	<ul style="list-style-type: none">• SPs had enhanced quality of teaching/learning activities• SPs offered alternative teaching opportunities

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Glossary

Simulated patient: Defined as a well person trained to simulate a patient's illness in a standardized way. (Barrows, HS 1993)

Defined as a normal person who has been carefully coached to present the symptoms and signs of an actual patient (Collin and Harden, 1998)

Declaration of interest:

There are no declarations of interest to report.

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