



Standardized patients article

Gynaecology

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ABSTRACT

Standardized patients as a simulation type is one of the method helping students to practice in safe environment with multi chances to correct errors , receive feedback and build self-confidence . This study aimed to assess the effectiveness of using standardized patient to teach, learn and assess students' clinical skills , using cohort prospective study design during two academic years 2014-2015 & 2015-2016 among fifth-year male medical students who attend Obstetrics and Gynecology rotation. Data was collected by using of 3 Tools : Pre and post-performance assessment Checklist , Mini-CEX and a satisfactory questionnaire. There was a significant difference between the two groups (with training & without training) in exam checklist & Mini-CEX grades ($p < 0.000$) . The results of the current study provide evidence of the effectiveness of using standardized patient in teaching , learning , and assessment .

KEYWORDS

standardized patient , simulation, clinical skills , history taking and physical examination.

Introduction:

The last two decades witnessed on a major development in health care in terms of effectiveness , elaboration and complexity, this was due to a number of factors: increasing economic pressures , decreasing inpatients number , early contact with patients increasing the ability of modern medicine to deal with many health conditions and increasing in the level of awareness among patients about their rights , while a student needs to facilitate access to the patient to learn physical examination and history taking then to be assess , patient's right to choose who examined and his right to privacy need to be respect . (1,2)

Several studies indicated that teaching and assessing clinical skills specially physical examination and history taking is challenging due to several reasons : doctors' skills, students' knowledge , difficulty of using real patients in classrooms and laboratory (patients' availability and their willingness to be examine) and uncomfortable physical environment. (3,4)

All of these factors with fact that clinical performance observation without standardized evaluation is not effective to be sure of competencies levels motivated medical educators to search and use different of pedagogical methods in order to assist students to gain more experience and improve clinical skills as well as to evaluate their performance . (3,6)

For years the " gold standard " which helps in teaching and evaluating clinical skills was stubborn on medical educator , simulation was indicated as one of the method helping students to practice in safe environment with multi chances to correct errors , receive feedback and build self-confidence without harming the patient, one of simulation type is standardized patients . (1,5,6)

In 1965 Howard S Barrows noticed during his work with medical students that their chances to make mistakes increase with the lake of observation , practicing and receiving feedback , also he shared with Harden during OSCE exam the fact that there is no standardized checklist during examining real patients , after that he developed the first checklist for standardized patients to use it in assessing clinical skills , after that the same checklist was used as education checklist, since that and over 50 years standardized patients become one of the important way to teach and evaluate clinical skills around the worlds . (1,5,6)

Several studies were conducted to define standardized patient term , demonstrated the efficacy of it as teaching and learning method (advantage and disadvantage). The use of SP passed over several stages in 1960s they were called as " programmed patients " and there was struggling of using them , then in 1970s they were called as " simulated patients " and their feedback after students meeting become essential factor , in 1980s the term " *standardized patient* " become common and accepted and define as " a person who is carefully trained to accurately, repeatedly, and realistically recreate the history and physical findings, as well as the psychological and emotional responses of the actual patient on whom the case is based " , in these

days more requirements and demanding were asked from SPs and an instruments were designed to evaluate the quality of SPs role and feedback . (7,8)

During the last few decades a lot of reasons encouraging the use of SPs in teaching and assessing clinical skills , less cost in training and employee and easy to schedule comparing with academic doctors , improving interpersonal and communication skills, following direction well, realistic, accuracy , feasible , transfer teaching from traditional was in classroom to bedside teaching , also Barrows demonstrated robust reliability in addition to high external validity , also SPs could present the case in a standardized and stationary style . (6,9,10)

Several studies were carried out to investigate the ability of using SPs in different areas of health care systems , and also the effectiveness of using different kind of SPs depending on the objectives, aims and content. (1,2,11,12,13)

During 2007 in Heidelberg University Medical Hospital Germany , the authors reported that using standardized patients and role-playing in ward round to train final year medical students was a successful experience. (11) . In Korea study 2010 , the authors concluded that the using of SP in ambulatory care setting with tutor-guided critical analysis of video feedback to teach medical students several clinical skills was a real and rich experience . (12) In the studies conducted in Ireland 2010 & Portugal 2014 , the authors emphasized on the successful use of SP in teaching communication skills , where they reported that the use of SP method is reliable, valid , could repeated in difference situation, and could applied on real situation (1 ,13) This study aimed to assess the effectiveness of using standardized patient to teach, learn and assess students' clinical skills .

Method:

This cohort prospective study was conduct during two academic years 2014-2015 & 2015-2016 among fifth-year medical students who attend the 12- week Obstetrics and Gynecology rotation and divided to groups of 24 to 26 students . The simulation sessions by using standardized patients were conducted in the Skills Laboratory at King Abdulaziz University hospital (KAUH), and the feedback and learning outcomes were evaluated during the sessions.

Data was collected by using of 3 Tools :

1. Pre and post-performance assessment Checklist (consists of 20 items with 2 choice : done & not done) & total grades 100.
2. Mini-CEX checklist (consists of 7 items with scale from 1-7) . Both post assessment tools (checklist & DOPS) were done about 2 weeks after the training.
3. A questionnaire of participants' feedback on using standardized patients consists of 16 questions, 8 questions with Likert scale 1-5, 4 questions use (yes or no) & four open questions.

The data collected was analyzed using SPSS version 20 statistical

software. parametric data was expressed as mean and standard deviations (minimum and maximum) , categorical data was summarized and presented as frequency and relative frequency (%). Comparison between pre- and post-training data , used independent t-test , P-value of <0.05 was considered significant.

Result:

In this study, (100) male students were enrolled , (60) from academic year 2014-2015 & (40) from academic year 2015-2016.

The mean score of grades for without training group was 25.8 ± 13.4 , while the mean score of grades for with training group was 87.2 ± 10.3 . As the mean score of checklist showed significant difference between with training and without training groups ($p < 0.000$). The mean scores of individual item of Mini-CEX for both groups were presented in Table (1). The scores of Mini-CEX in all 7 items among without training group were below 2.5 (1.7-2.2) indicating areas of weaknesses while the mean scores of Mini-CEX in all 11 items among with training group became more than 4.0 (4.5-4.7) , a significant difference was found among all 7 items ($P < 0.0001$) indicating improvement in the skills in the group who used SP than traditional method. (Table 1)

Concerning students' previous experience in taking history and receiving feedback , only 21 students stated taking history from real patients (5 took history 2 times and 16 took history 1 time), and from these 21 students only 13 (62.0%) received feedback.

Regarding the questionnaire of participants' feedback on using SP as teaching method , 6 items had mean scores more than 5 (1,2,3,4,5 & 6) and 2 items had mean scores above 4.0 (1&2) , 138 (90.1 %) of the participants preferred the using of standardized patients in the formative Assessment, and 135 (88.3%) of the participants preferred the using of standardized patients in regular teaching Sessions. (Table 2)

Table (1) : Comparing students' scores between with training and without training groups:

Variables	Without training	With training	P value
Total grade	25.8 ± 13.4	87.2 ± 10.3	0.000
Mini-CEX 1	2.2 ± 1.1	4.6 ± 0.9	0.000
Mini-CEX 2	1.7 ± 1.0	4.5 ± 1.1	0.000
Mini-CEX 3	1.9 ± 0.9	4.7 ± 0.9	0.000
Mini-CEX 4	1.9 ± 1.0	4.6 ± 0.9	0.000
Mini-CEX 5	1.9 ± 1.1	4.7 ± 1.1	0.000
Mini-CEX 6	1.8 ± 0.9	4.6 ± 1.1	0.000
Mini-CEX 7	1.7 ± 0.9	4.5 ± 1.0	0.000

Table (2) : students' perception of using standardized patients as teaching

Variables	Mean± SD	Rang (min-max)
The standardized patient (SP) appearance was up to my expectation	5.4 ± 1.5	(1-7)
The SP was well trained and elaborated	5.6 ± 1.6	(1-7)
The standardized patient was attentive to my questions	5.7 ± 1.5	(1-7)
The SP was cooperative during physical examination	5.6 ± 1.7	(1-7)
The SP demonstrated good knowledge of the subject matter	5.6 ± 1.6	(1-7)
I prefer having native SP during teaching who can interact	5.3 ± 1.5	(1-7)
Going through SP encounters is effective for medical students learning how to build rapport with patients	4.4 ± 0.9	(1-7)
Going through SP encounters is effective for medical students learning how to perform physical exam maneuvers	4.1 ± 1.0	(1-7)
Variables	N	%

Would you prefer standardized patients in the formative Assessment ?

No	15	9.9
Yes	138	90.1
Would you prefer standardized patients in regular teaching Sessions ?		
No	18	11.7
Yes	135	88.3

Discussion:

Medical students and their teachers estimated the Learning experience in clinical environments. Even with the challenges and difficulties facing the medical students, which may underestimate from the teachers.(14) During the last few decades, an evolution of medical curricula happened with new initiatives. Although, there has been a decreasing in the time for many clinical rotations, including obstetrics and gynecology (OB/GYN).(14) This induces a great problem among all medical colleges around the world, where medical educators notice that some of the essential clinical skills were missing among medical students and residents.(15)

Health care educators facing big challenging to develop their interpersonal, critical thinking, self-analysis, clinical assessment, treatment intervention skills and decision making and to make students ready to enter the professional life with confidence. (16,17) Clinical skills can be learned and assessed using different ways, one of these ways including standardized patient (SP) as a simulation method. (16,17)

This study conduct to provide evidence about the effectiveness of using and integrating standardized patient as innovative teaching/assessment method in OB/GYN curriculum

The study presented a high significant difference in the performance of the exam conduct after training session between the two groups with training (group A) & without training (group B) ($P < 0.001$). Where all the result provide strong evidence about the effectiveness of using standardized patient as a teaching method , where the majority of the students who participated in the training program showed increasing in knowledge, communication skills , level of ability to approach & dealing with patients and team work among students .

Haeseler F et al reported that students who received Standardized patient motivational interviewing training program comparing with the students who didn't receive the training had higher significant score use of the importance and confidence ruler technique ($p = 0.001$ and $p = 0.04$). (18)

Lee CA et al reported that the performance scores of the students who attend standardized patient-narrated web-based learning modules was significantly higher than who didn't receive training in communication skills ($+2.67\%$, $p < 0.01$) and overall ($+2.12\%$, $p = 0.03$). (19)

After the training and the test were finished a satisfaction questionnaire was distributed on the students to detect their perception of using standardized patient as a teaching method. The results of the questionnaire presented a high level of satisfaction from standardized patient training sessions among students (all the mean scores were between 4.1-5.7) , this due to several issues such as; perform physical exam maneuvers, interact with SP and build relationship with patients. Herge EA et al reported that almost two thirds (60%) of students Reported that the opportunity to run the test was the most useful part of the experience, while 35% stated conducting the interview as the most challenging part. (17)

The majority of the students confirmed the effectiveness of the standardized patient training session as a helpful tool in learning how to approach female patients , taking history and communication skills, and they stated the need for integrated simulation in the curriculum and use as a regular teaching method for clinical skills as well as a formative assessment method .

Giesbrecht EM et al stated that most of the participants agreed that standardized patient method is conducive for interviewing skills. (16) Similar results were found in study , Herge EA et al reported that the all 69 students stated the effectiveness of SP encounter as learning tool, and 93% stated that this experience helped in building their

confidence. (17)

Pliego JF et al reported significant improvement among OB/GYN residents who attend "Boot Camp Using High-Fidelity Human Simulators", where 91%, 81%, 81% and 63% of the participants stated that the experience raised their interest in developing clinical competency, management of stressful situations, leadership and managing the most common obstetrical scenarios. (20)

Overall, standardized patient training program, helped medical students in filling the gap between theoretical and practical learning and developing their skills and practice in safety environment, where they that they would not harm the patient if they made a mistake, as well as they have the chance to stop an interaction for feedback/correction or repeating, which were not options when dealing with real patients in a clinical setting.

Limitation:

The sample population for this study are the KAUH OB GYN male students only. Performing similar study among all students and all modules will help to provide us with a more accurate result in the future.

Conclusion:

The current study highlighted the effectiveness of using standardized patients as method of teaching, learning and assessment of clinical skills. Adapting and applying this method from early years in the medical school will increase students' experience and improve their clinical skills, which has positive influence on the educational outcomes and development professional and confident physicians. Further studies need to be carried to evaluate the effectiveness of standardized patient as teaching & assessment method in different modules.

References:

- Ryan CA, Walshe N, Gaffney R, Shanks A, Burgoyne L, Wiskin CM. Using standardized patients to assess communication skills in medical and nursing students. *BMC Med Educ*. 2010 Mar 17;10:24.
- Rethans JJ, Grosfeld FJ, Aper L, Reniers J, Westen JH, van Wijngaarden JJ, van Weel-Baungarten EM. Six formats in simulated and standardized patients use, based on experiences of 13 undergraduate medical curricula in Belgium and the Netherlands. *Med Teach*. 2012;34(9):710-6.
- Langen WH, Hanson D, Fien R, Parkhurst D. The Evaluation of Physician Assistant Students' History-Taking Abilities Using Actors as Standardized Patients. *J Physician Assist Educ*. 2011;22(4):34-7.
- Ramani S. Twelve tips for excellent physical examination teaching. *Med Teach*. 2008;30(9-10):851-6.
- Richardson L, Resick L, Leonardo M, Pearsall C. Undergraduate Students as Standardized Patients to Assess Advanced Practice Nursing Student Competencies. *Nurse Educ*. 2009 Jan-Feb;34(1):12-6.
- Giesbrecht EM, Wener PF, Pereira GM. A mixed methods study of student perceptions of using standardized patients for learning and evaluation. *Adv Med Educ Pract*. 2014 Aug 12;5:241-55.
- May W. Training standardized patients for a high-stakes Clinical Performance Examination in the California Consortium for the Assessment of Clinical Competence. *Kaohsiung J Med Sci*. 2008 Dec;24(12):640-5.
- Schlegel C, Bonvin R, Rethans JJ, Van der Vleuten C. Standardized Patients' Perspectives on Workplace Satisfaction and Work-Related Relationships. *Simul Healthc*. 2016 Aug;11(4):278-85. [furnan GE](#).
- The role of standardized patient and trainer training in quality assurance for a high-stakes clinical skills examination. *Kaohsiung J Med Sci*. 2008 Dec;24(12):651-5.
- Park JH1, Son JY, Kim S, May W. Effect of feedback from standardized patients on medical students' performance and perceptions of the neurological examination. *Med Teach*. 2011;33(12):1005-10.
- Nikendei C, Kraus B, Lauber H, Schrauth M, Weyrich P, Zipfel S, Jünger J, Briem S. An innovative model for teaching complex clinical procedures: integration of standardized patients into ward round training for final year students. *Med Teach*. 2007 Mar;29(2-3):246-52.
- Myung SJ, Kang SH, Kim YS, Lee EB, Shin JS, Shin HY, Park WB. The use of standardized patients to teach medical students clinical skills in ambulatory care settings. *Med Teach*. 2010;32(11):e467-70.
- Carvalho IP, Pais VG, Silva FR, Martins R, Figueiredo-Braga M, Pedrosa R, Almeida SS, Correia L, Ribeiro-Silva R, Castro-Vale I, Teles A, Mota-Cardoso R. Teaching communication skills in clinical settings: comparing two applications of a comprehensive program with standardized and real patients. *BMC Med Educ*. 2014 May 9;14:92.
- Deane RP, Murphy DJ. Proposed learning strategies of medical students in a clinical rotation in obstetrics and gynecology: a descriptive study. *Adv Med Educ Pract*. 2016 Aug 10;7:489-96. doi: 10.2147/AMEPS.108008. eCollection 2016.
- Whelan GP1, Boulet JR, McKinley DW, Norcini JJ, van Zanten M, Hambleton RK, Burdick WP, Peitzman SJ. Scoring standardized patient examinations: lessons learned from the development and administration of the ECFMG Clinical Skills Assessment (CSA). *Med Teach*. 2005 May;27(3):200-6.
- Giesbrecht EM, Pamela F Wener PF, and Gisèle M Pereira GM. A mixed methods study of student perceptions of using standardized patients for learning and evaluation. *Adv Med Educ Pract*. 2014; 5: 241-255.
- Herge EA1, Lorch A, Deangelis T, Vause-Earland T, Mollo K, Zapletal A. The standardized patient encounter: a dynamic educational approach to enhance students' clinical healthcare skills. *J Allied Health*. 2013 Winter;42(4):229-35.
- Haeseler F, Fortin AH 6th, Pfeiffer C, Walters C, Martino S. Assessment of a motivational interviewing curriculum for year 3 medical students using a standardized patient case. *Patient Educ Couns*. 2011 Jul;84(1):27-30. doi:

10.1016/j.pec.2010.10.029. Epub 2010 Nov 30.

- Lee CA1, Chang A, Chou CL, Boscardin C, Hauer KE. Standardized patient-narrated web-based learning modules improve students' communication skills on a high-stakes clinical skills examination. *J Gen Intern Med*. 2011 Nov;26(11):1374-7. doi: 10.1007/s11606-011-1809-3. Epub 2011 Jul 16.
- Pliego JF, Wehbe-Janek H, Rajab MH, Browning JL, Fothergill RE. OB/GYN boot camp using high-fidelity human simulators: enhancing residents' perceived competency, confidence in taking a leadership role, and stress hardness. *Simul Healthc*. 2008 Summer;3(2):82-9. doi: 10.1097/SIH.0b013e3181658188.