



Saudi Nursing Students' Outcomes and Perspectives about an Objective Structured Clinical Examination in Obstetrics and Gynecological Nursing Course

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ABSTRACT

Objective: This study aimed to explore and describe the sixth level nursing students' perception regarding the use of OSCE assessment approach. Specifically, it investigated the students' perception in terms of preparation, quality, and organization, format, validity, and reliability of OSCE. **Methods:** Observational study design of 50 female nursing students was utilized in this study. The OSCE consisted of 10 stations; the students' perceptions about OSCE were evaluated using a structured questionnaire. Data were related to the organization of the OSCE measured by scoring scale Likert-scale questionnaires and Pierre, et al., questionnaire 2004. For the purpose of this study, only 18 items of the questionnaire were used to measure the preparation, quality and organization, format, validity, and reliability of OSCE. **Results:** The majority of students provided positive feedback about the OSCE quality attributes and organization, and provided positive feedback about the OSCE format, validity, and reliability. Results revealed that there is a positive and direct significant correlation between using OSCE sessions in training and OSCE examination. **Conclusion:** OSCE is a meaningful, fair, useful and an acceptable method for evaluating the nursing students' clinical performance because of various positive specifications such as objectivity and fairness. **Relevance to clinical practice:** There is a far reaching understanding for clinical learning as it has a focal significance in nursing training. Compelling clinical stations are fundamental to turning into a skillful expert nursing caretaker. Learning in the nursing clinical area gives present reality to nursing students to build up the information, abilities, dispositions, and skills.

Keywords: Objective structured clinical examination (OSCE), Nursing, Maternity, Clinical skills

INTRODUCTION

Over the most recent two decades, fast and broad changes occurred in the student evaluation strategies. A large number of the appraisal strategies have been produced and predominantly focused on clinical procedural capacity, conveying skills and professionalism, abilities and the demonstrable skill [1]. Clinical practice is one of the significant parts in the nursing instruction, and it can be difficult for students. They may confront numerous difficulties or dangers in unique and complex clinical situations, for example, how to utilize cutting edge therapeutic hardware, how to keep up great associations with clinical staff and educators, how to resolve sudden changes in a patient's condition, and how to manage the requests of patients' relatives [2].

Objective Structured Clinical Examination (OSCE), assessment of clinical capability that centers around results through detectable nursing practices. The OSCE was introduced as a method for control of a large number of the biases. Conventional clinical examinations are given by a solitary employee who watches a student taking a patient history and make out a physical examination [3]. The teacher must be ready to talk about the case and answer presented by the nursing student. The student's assessment is liable to the whims of both the teacher and the patient [4].

An OSCE typically contains a circuit of short (the standard is 5-10 minutes albeit some utilization as long as 15 minutes) stations, in which every student is analyzed on a coordinated premise with one or two of the fair-minded

examiner(s) and either genuine or simulated (actors or electronic patient simulators) patients. Each station has a different investigator, rather than the traditional method of clinical examinations where a student would be dedicated to the examiner for the whole examination [5]. Students pivot through the stations, finishing every one of the stations on their circuit. Thusly, all students take similar stations. It is viewed as an enhancement over the traditional examination; on the grounds that the stations can be standardized empowering fairer through comparison and complex methods which can be evaluated without imperiling patient's well-being [6].

Since its improvement during the 1970s by Dr. Ronald Harden, the OSCE has motivated force for clinical appraisal to assess nursing student's clinical skills. OSCE is presently a standout amongst the most substantial, dependable and reliable source to examine the relational correspondence, and psychomotor, it is considered as a reasonable and extensive method for assessment. To make out these abilities, there is a big requirement for the existence of a simulated nursing clinical or patient care environment [7]. Likewise, OSCE was safeguarded until ongoing changes in the Nursing Department at Prince Khalid Bin Sultan University educational programs, Saudi Arabia. In light of suggestions to enhance the reasonableness of the examination through a selection of trusted, dependable assessment methods in nursing training, the Department of Nursing, Prince Sultan College started the OSCE as a formal strategy for evaluation of examinations in the nursing clinical courses for students in the third year in December 2013. [8].

An observational study was conducted at King Saud University College of Medicine, Riyadh, Saudi Arabia, from March 2010 to May 2010 which demonstrated that the OSCE was decidedly invited by the medicine students [9].

Objectives

This study aimed to explore and depict the third year nursing students' perceptions regarding the use of OSCE assessment approach. Specifically, it investigated the students' perceptions in terms of preparation, quality, and organization, format, validity, and reliability of OSCE.

MATERIALS AND METHODS

Study Design

The observational study design was utilized.

Sample and Participants

The study was done in the female College, Nursing section, Medical Sciences College, Al-Dawadmi, Shaqra University. The sample of 50 female nursing students was included in this study. The sample was entered to share the proposal with the following criteria:

- Finished the third year
- Completed the clinical showing course of the maternal and neonatal health
- Who was inspected utilizing OSCE

This subject is situated in the sixth grade of the educational programs. The students were put into core groups, for history taking, abdominal examination, instrument's station, and others.

OSCE Design

The OSCE comprised of 10 stations: 4 stations had simulated patients for the evaluation of the abdominal and newborn, 2 stations for evaluation of the vaginal examination, and 2 stations were photographed station to the distinctive photographs identified with the clinical course. The last 2 stations were instruments station to perceive the name and utilize the instruments. After that we take the control group to know the outcomes after training, the aim of the control group was a comparison in scores with the study group in their clinical rotation for learning activity and OSCE.

Student Preparation

The pre-evaluation booklet was given to the students before the study. These pamphlets contained significant knowledge on the time designated for every skill; thusly knowledge would direct the students in their readiness for the appraisals. Sufficient time for rehearsing was made accessible in accordance with the observations made by students in such a manner.

Variables: The student imagines regarded OSCE in the maternal and neonatal health which assessed utilizing an organized questionnaire. The questionnaire was separated into 2 sections: a socio-demographic sheet for age and place and an area that surveyed the students' perceptions.

Information identified with the OSCE was evaluated by a Likert-scale survey by Nemoto and Beglar, and Pierre, et al. With the goal of this examination, just 18 things of the poll were utilized to quantify planning, quality, and organization, format, validity, and reliability of OSCE [10].

The survey utilized in the present examination comprises of 3 principle sections:

- Section 1: Nursing students' readiness and surveys nursing students' assessment of the OSCE attributes
- Students were requested to rate their reactions on a point scale ranging; 'disagree', 'neutral' and 'agree'
- Section 2: Looks at students' assessment of the OSCE regulation
- Section 3: It cares about the students' assessment of the OSCE validity and reliability [11]

Each statement in section one was rated on a 3-point Likert scale ranging from 1-3 points. Each statement was graded as the following:

- Agree: 3 points
- Neutral: 2 points
- Disagree: 1 point

Procedure: Prior to execution of the plan, an official consent was taken from the Dean of the College of Applied Medical Sciences. The pilot study was ended before the execution of the research to test the validity and reliability of the questionnaire sheet.

Efforts to address potential sources of bias: The changes were done based on the pilot study.

Study size: The data were collected over 2 months, October and November for 2 years, 2015 and 2016, from all students entering the course. After finishing the semester of maternal and neonatal health nursing, each student filled a questionnaire. The elapsed time for the questionnaire was around 5-10 minutes; the students answer it by themselves. Students were assured that all knowledge of them about OSCE will be confidential for the research.

Statistical Analysis

Student's information was analyzed by the SPSS version 20. The information taken was coded, analyzed and arranged. Descriptive analysis was done in this research, including frequencies and rate, additionally utilizing the mean, standard deviation, t-test.

Ethical Considerations

Before directing this research ethical clearance was taken from the institutional review board, research unit log No. RU-0011, there were no risks which can affect the students during the application of the study. Informed consent was acquired and the students were resting assured of namelessness and confidentiality. All students shared voluntarily after being briefed in full. No psychological harm was foreseen as it was not possible to link any response to a specific individual (lecturer or student) also; we protect the students from possible forcible and undue influence because of that the teacher of the students was not the one who collected the data.

RESULTS

Socio-Demographic Descriptions of the Students

The mean age of the students was 21.24 ± 1.001 years. According to regions, around 65% were living in urban regions. It was considered essential that nursing students demonstrate the dimension of their own readiness (Table 1). The reactions in Table 1 showed that 82% (n=41) of the students had prepared well for their OSCEs.

Table 1 Number and percent distribution of students according to their preparedness of student nurses

Variable	No	%
Well prepared	41	0.82%
Not prepared	3	0.06%
Neutral	6	0.12%

Table 2 presents the student's responses on the scale measuring the perceptions on the quality of OSCE attributes. As indicated, all the items on the scale received agreement from the students, with items "OSCE was very stressful" and "Exam provided opportunities to learn" receiving the highest approval from the students (90%) and item "The OSCE was designed fairly" receiving the lowest percentage of agreement (70%).

Table 2 Distribution of students as regard to their evaluation of the quality of OSCE attributes (n=50)

Variable	Degree of Response							
	Agree		Neutral		Disagree		Total	
	n	%	n	%	n	%	n	%
The OSCE was designed fairly	35	70%	8	16%	7	14%	50	100%
The exam was well structured	40	80%	5	10%	5	10%	50	100%
OSCEC was very stressful	45	90%	3	6%	2	4%	50	100%
The exam was easier than other oral	35	70%	10	20%	5	10%	50	100%
I received adequate information before exam	42	84%	5	10%	3	6%	50	100%
Instruction were clear	40	80%	6	12%	4	8%	50	100%
Sequence of station logical	41	82%	8	16%	1	2%	50	100%
Station reflect those taught	38	76%	8	16%	4	8%	50	100%
Exam provided opportunities to learn	45	90%	3	6%	2	4%	50	100%

Table 3 mentioned that the students gave positive comments about the OSCE format. They concurred that the time of each station is satisfactory (96%). Most students highlighted that OSCE stations covered the whole course (90%) and the majority of students provided positive feedback about "OSCE provide the measure of clinical essential skill" (94%).

Table 3 Number and percent distribution of students' perceptions according to OSCE format (n=50)

Variable	Degree of Response							
	Agree		Neutral		Disagree		Total	
	No	%	No	%	No	%	No	%
Time of each station is adequate	48	96%	2	4%	0	0%	50	100%
The number of OSCEC station is sufficient	45	90%	2	4%	3	6%	50	100%
Revision done before the exam about all types of procedure	46	92%	2	4%	2	4%	50	100%
OSCEC exam covers the whole course	45	90%	3	6%	2	4%	50	100%
Are you thinking the OSCEC provides the measure of clinical essential skill	47	94%	1	2%	2	4%	50	100%

In Table 4 results of the questionnaire mentioned that most of the students gave positive comments about the OSCE's validity and reliability; they agreed that the OSCE scores were standardized (92%). Majority of students report that OSCE is clinically good and an exciting experiment (90%), also the majority of them felt that the personality and social relations do not have an effect on OSCE scores (96%).

Table 4 Distribution of students 'according to their OSCE's validity and reliability (n=50)

Variable	Degree of Response							
	To greet the extent		Neutral		Not at all		Total	
	No	%	No	%	No	%	No	%
OSCE give ideal measure of essential skills	47	94%	1	2%	2	4%	50	100%
OSCE scores are standardized	46	92%	3	6%	1	2%	50	100%
OSCE practical are useful experience	45	90%	3	6%	2	4%	50	100%
Individual and social relations won't influence OSCE scores	48	96%	0	0%	2	4%	50	100%

Table 5 relation between total mean scores of rotation exam of study and control students enrolled in the clinical exam in maternal and neonatal health nursing course. It indicates that there is a statistically significant difference in the mean degree of the exam rotation between pretest (using the traditional method of the exam) and posttest (using OSCE exam).

Table 5 Relation between total mean scores of rotation exam of pre and post test group

Mean scores of rotation exam		T- test	p-value
Post-test (OSCE exam) (N=50)	Pre-test (chick list exam) (N=50)		
Mean \pm SD	Mean \pm SD		
15.5540 \pm 2.12696	9.7000 \pm 3.60272	-8.928	<0.001*

DISCUSSION

According to the view of the students towards the level of their own preparation, 82% (n=41) of the students were of the opinion that they had prepared well for their OSCEs. El-Nemer and Kandeel mention that students should take orientation with regard to the nature of the OSCE and the process of the exam about 1-week before starting the exam. Also was supported by Fidment who indicated that preparation is done.

According to the view of the students towards evaluation of OSCE quality attributes, as indicated, all the items on the scale received agreement from the students, with items "OSCE was very stressful" and "Exam provided opportunities to learn" receiving the highest approval from the students (90%) and item "The OSCE was designed fairly" receiving the lowest percentage of agreement (70%). This was supported by Ghadah and Manal who mention the student's perception towards the quality of OSCE [2]. Also, the correlation of the OSCE stations with the ILOs of clinical course, the highest percentage of the students agreed (92% and 96%, respectively). Regarding the number of stations to the studied course 94% agreed.

According to the view of the students towards the evaluation of OSCE format, mentioned that the students gave positive comments about the OSCE format. They concurred that the time of each station is satisfactory (96%). About 90% of students remember that OSCE covered the majority of the course also, the majority of students provided positive feedback about OSCE which provide the measurement of skill (94%). This was supported by Al-Zeftawy, et al., who mentioned that more than one-third (38.4%) of students statement that OSCE rating was the easiest, while 31.8% rated MCQ as a more difficult form of assessment [12]. The OSCE and MCQ were the most equitable tool (29.8%), and 27.8% considered essays were the most utilizing learning experiences.

As regards to the view of the students towards the evaluation of their OSCE's validity and reliability, results of the questionnaire mentioned that most of the students gave positive comments about the OSCE's validity and reliability; they agreed that the OSCE scores were standardized (92%). Majority of students report that OSCE clinically are good and an exciting experiment (90%), also the majority of them felt that the personality and social relations do not have an effect on OSCE scores (96%).

This was concurrence with Ghona, et al., and Brosnan, et al., [13]. Simply over half (56.9%) of the student trusted that OSCE was ideal and 55.2% of the students extraordinarily agreed that their performance on the exam was a true impression of their clinical skills. Likewise, 58.6% of students remember that the OSCE was a clinically valuable experience for them, as well as 72.4% of the students reacted to question about bias due to identity and social relations, were not influenced on OSCE scores likewise Lamia, et al., [1].

The present study results reflected that there was a relation between total mean scores of rotation exam of post test and pre test group of 6 level nursing students passes maternal and neonatal nursing clinical course. The table indicates that there is a statistically significant difference in the total mean scores of the clinical exam rotation between post test (using OSCE exam) and pre test (using the traditional method of the exam).

Similarly in a study by Nahid, et al., and Abeer A, who found that 88.6% were completely mindful of the idea of examination, 84.1% of them detailed that the allocated assignments to perform in the test were reasonable [6,14] [6,14]. Likewise, mentioned that more than three quarter (77.3%) of students concur that sequencing of stations was sensible, suitable and the examination furnished them with chances to learn. Almost three quarter (72.7%) of students concur that the examination strategies gave adequate time at each station in excess of two-third (70.5%) of students which concurred that the instructions were clear and unambiguous, 61.4% of students demonstrated that setting at

each station felt authentic. Nonetheless, 47.7% had the feeling that the assigned tasks reflected what is instructed in their courses, likewise, comparably in an investigation by Bartfay, et al., and Howley L [15,16].

The present study results reflected that there was a correlation between mean score percentage of student nurses in the post test according to their degree of OSCE as training and as an examination tool. The results reflected that the majority of the studied students have excellent mean score according to their degree of OSCE as a training tool. This could be attributed to many factors, results revealed that there is a positive and direct significant correlation between using OSCE sessions in training and OSCE examination. Similarly, in a study by Nahid M, et al., and Chesser, et al., [17,18].

CONCLUSION AND RECOMMENDATIONS

The discoveries feature that OSCE is an important, reasonable, helpful and acceptable method for assessing student's clinical performance due to different positive particulars, for example, objectivity and justice. It is a type of tool for clinical skills in nursing and it has positively affected nursing educational courses. It could examine a wide scope of material and covered a wide scope of learning. The application of OSCE is ideal to most of the studies done on OSCE with nursing students.

In view of the previously mentioned outcomes, the accompanying suggestions might be considered:

- OSCE is a viable tool and should keep on being connected in all nursing clinical examination
- The required OSCE must be improved; this would incorporate viewpoints, for example, teacher readiness, student readiness, and specialized arrangement
- OSCE ought to be utilized as a tool for learning and assessing clinical practice in a mix with conventional methods
- Guaranteeing clear guidelines and have modification identified with all competencies and preparing for OSCE just before the examination

Relevance to Clinical Practice

There is a far reaching understanding of clinical learning has a focal significance in nursing training. Compelling clinical stations are fundamental to turning into a skillful expert nursing caretaker. Learning in the nursing clinical area gives present reality to nursing students to build up the information, abilities, dispositions, and skills.

Compelling clinical situations are fundamental to turning into a skillful expert nursing attendant. Learning in the clinical condition gives this present reality setting to a nursing student to build up the information, communication abilities, skills, and estimations.

DECLARATIONS

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Conflict of Interest

The authors declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

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