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ORIGINAL ARTICLE

Perceptions of academic staff toward the objective structured clinical examination (OSCE) in clinical nursing: Assessment method

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Abstract

Background Clinical competence is critical to evaluating nursing students' capacity to undertake professional nursing practice in a safe and professional environment without any bias of examiners. Objective structured clinical examination (OSCE) is used as an assessment method of students' clinical practice skills.

Aims The aim of this study is to assess the nursing faculty members' perception toward OSCE to be used as an assessment method of nursing students in their performing of nursing procedures, as well as explore the advantages and disadvantages of OSCE as perceived by study participants.

Method A descriptive cross-sectional study was used among nursing faculty members ($N=73$) who participated on a workshop that were conducted by Jordanian Nursing Council (JNC) between January 2022 and March 2023.

Result The mean perception toward OSCE was 105.87 ± 22.02 (p value $=0.001$). The majority of faculty members reported a positive perception toward the OSCE (82.2%). The negative perception was significant in gender, age group, level of education, and academic experience ($p<0.05$). The majority of faculty members were agree on the advantages of OSCE.

Conclusion OSCE is a vital assessment and an objective method in assessing the student's clinical competence. More studies exploring the differences of OSCE perceptions and participant's characteristics are required.

Keywords Clinical skill competency · Nursing education · OSCE · Staff perception

Introduction

Clinical nursing is considered the heart of the professional practice of nursing and occupies the cornerstone of the healthcare system through ensuring safety among patients and making nurses more skilled [1, 2]. Thus, nursing faculties utilize nurse educators, clinical instructors, and preceptors to supervise and train students to transfer their knowledge and experience to improve their psychomotor skills. Also, they measure and evaluate students' practical skills based on their relationships and the general impression made from their interactions with them [3]. There is a gap and deficiency between undergraduate nursing students' competencies, skills, and expertise in clinical settings, whether in hospitals or healthcare centers, including a lack of leadership skills, inadequate communication skills, insufficient experience, anxiety about making mistakes, stress, and unfavorable staff attitudes [4, 5]. Thus, it is a challenge for nursing educators to make sure that their methods of instruction, learning, and assessment are suitable to guarantee that students'

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clinical competence is reflected in the creation and delivery of high-quality nursing care [3, 6].

The objective structured clinical examination (OSCE) is one example of the more organized, valid, reliable, and globally standardized assessment methods that nursing faculties have used in high-fidelity simulations with advanced monitor and computer technologies in recent years [7, 8]. Since its introduction in the 1970s, the OSCE has been regarded as the gold standard in a practical system for clinical skills and knowledge assessment [9, 10]. It is widely used in medical education, nursing and midwifery, pharmacy, dentistry, and physical therapy [11, 12]. It is described as a useful technique for the evaluation of learners' clinical competence, underlying knowledge, and readiness for practice in many clinical programs under simulated conditions [13].

The use of OSCE in nursing education allows students to practice their skills and demonstrate their knowledge and attitude in a safe and professional environment without any bias from examiners [14, 15]; nursing instructors can provide students with timely feedback regarding identified clinical deficits and skills that are being mastered, when they assign short assessment tasks to their students and assess them objectively using predetermined criteria or checklists under standardized conditions for a large number of students [16–19]. However, OSCE promotes active learning, which helps students become more adept at using logic and critical thinking. It also combines theory and practice, guaranteeing a regulated and safe environment without harming patients [20]. This is despite the frequent limitations of OSCE implementation, such as the increased level of stress experienced by students during implementation, time consumed in preparation, and the demand on the lecturers to ensure the validity and reliability of the OSCE process [21–23].

There is little OSCE practice in developing countries and little research on nursing faculty perceptions of OSCE, despite sufficient information about the structure, organizational elements, and administration of the exam. So, this study aims to assess the Nursing faculty members' perception toward OSCE to be used as an assessment method of nursing students in their performing of nursing procedures, as well as explore the advantages and disadvantages of OSCE as perceived by study participants.

Methodology

Design

A descriptive, cross-sectional design was used to assess baseline data of faculty and nursing educators' perception toward OSCE. Cross-sectional design is appropriate for studying the status of phenomena at a fixed point in time [24].

Sample

A purposive sampling technique was employed; with all potential participants ($N=80$) were faculty members and nursing educators who attended workshop on "How to Be a Simulation Educator" from Jordan and Palestine. The sample size for this study was determined via an online calculator, taking into account an alpha level of 0.05, a medium effect size, a margin of error of 5%, and the total population of 80 participants with a 95% confidence interval. This calculation yielded a sample size of 67 faculty members and nursing educators. However, 73 participants responded to our study, resulting in a response rate of 90%.

Setting

The study took place from January 2022 to March 2023 at the Jordanian Nursing Council (JNC), a government entity established in 2002 to supervise the nursing field in Jordan. The distinguished leader of the council is Her Royal Highness Princess Muna Al Hussein. The council's mission is to enhance nursing care, safeguard the public, and enhance overall health by regulating and advancing the nursing profession in both theoretical and practical aspects.

Instrument

Socio-demographic data

This tool gathered descriptive socio-demographic characteristics of participants and was designed by the researchers to include questions relating to age, gender, level of education, academic rank, country, and previous experience of OSCE.

Faculty members' level of perception toward OSCE tool

This tool consists of a 28 items that was developed by Khan et al. (25). Each of the 28 items is a five points Likert scale ranging from (1, strongly disagree; 2, disagree; 3, neutral; 4, agree; 5, strongly agree). It included questions about faculty perception about content and preparation; the utility of OSCE; and the validity and level of stress of OSCE 25. The reliability analysis for this scale was excellent (Cronbach's alpha = 0.949).

Table 1 Reliability of OSCE tool

Tool	*N* of items	Cronbach's alpha
Perception of nursing faculty toward OSCE	28	.946
Advantages	7	.789
Disadvantages	4	.742

Table 2 Demographic characteristics of the participants ($n=73$)

		n	%
Gender	Male	25	34.2
	Female	48	65.8
Age	≤35	26	35.6
	>35	47	63.7
Country	Jordan	63	86.3
	Palestine	10	13.7
Level of education	BSc in nursing	12	16.4
	Master or PhD	61	83.6
Years of experience	≤5 years	10	13.7
	>5 years	63	86.3
Type of university	Governmental	41	56.2
	Private	32	43.8
Previous experience of OSCE	Yes	27	37.0
	No	46	63.0

The reliability analysis for this study showed similar results (see Table 1).

Advantages and disadvantages of using OSCE tool

This tool consists of 11 items (7 items for advantages, and 4 items for disadvantages) that was developed by Jaiswal and Mehta (26). Each of the 11 items is a five points Likert scale ranging from (1, strongly disagree; 2, disagree; 3, neutral; 4, agree; 5, strongly agree) 26. The reliability analysis for this tool (Cronbach's alpha = 0.78, 0.74, respectively) that showed the items are sufficiently consistent to indicate the measure is reliable [27] (see Table 1).

Data collection procedures

The purpose of the study was explained and data were collected through Google online form. The contacts details of the faculty members and nursing educators who participated in the workshops at the JNC were obtained from the JNC. The prospective subjects were contacted through e-mail.

Ethical considerations

Before data collection, approval from the Scientific and Ethics Research Committees of Al-Quds University was obtained (RESC/2024-3). The purpose of the study was explained in the e-mails that were sent to the prospective subjects. The subjects were informed that participation in the study was voluntary; they had the right to accept or refuse to participate. Confidentiality was ensured during all the stages of the study. Data were coded with numbers for identification—names were not used. No one other than the researcher had access to the codes. No risk or harm was anticipated from participation in the study. Potential benefits to the subject might be the sense of well-being from the opportunity to participate in a scientific study. Prospective subjects were informed that filling the Google online form will be considered as informed consent.

Data Analysis

Statistical package for social science (SPSS) version 22 was used to analyze and interpret the entered data. Descriptive statistics in terms of frequencies, percentage mean, and standard deviation was used to provide description of the demographic variables and perception toward OSCE. One-sample *t*-test was used to determine if the subjects have positive or negative perceptions toward OSCE. Chi-square test is used to assess the significance difference in the level of perception toward OSCE based on gender, age group, country, type of university, level of education, academic experience, and the presence of previous experience in OSCE.

Results

Total of 73 participants were reply to the study questionnaire. Characteristics of the study's participants were presented in Table 2. Most of study participants were females (68.8%). 63.7% were more than 35 years old. The majority of them were Jordanian (86.3%). Who have master or Ph.D. degree were 83.6% of the participants. The experience in academic field has shown highly percentage to have more than 5 years (86.3%). More than half of the participants were worked in governmental universities. Most of participants have no previous experience of OSCE (63%).

Using a scale to assess the Faculty members and educator's perceptions about OSCE, their perception was ranged between 28 and 140. While the assumed mean was 84, the participants' real mean was 105.87 ± 22.02 with significant *p* value = 0.001 (see Table 3).

Table 3 Perception toward OSCE

One sample *t*-test							
	Min	Max	Real mean	Sth. deviation	Assumed mean	*t*-value	Sig.
Perceptions toward OSCE	28	140	105.87	22.02	84	13.642	0.000

Table 4 Faculty members' level of perception toward OSCE (negative and positive perception)

Level of perception	Frequency	Percentage
Negative (≤ 84)	13	17.8
Positive (> 84)	60	82.2
Total	73	100.0

Depending on the assumed mean, we divided the participant's perception as negative perception for who were the total score equal or less than 84 and positive perception for who were the total score more than 84. The majority of them were shown positive perception toward the OSCE (82.2%) (see Table 4).

Using the chi-square to test the correlation between the participant's perception and their demographic characteristic, it was seemed that the negative perception toward the OSCE was significant differences in gender ($X = 8.238$, $p = 0.004$), type of university ($X = 8.392$, $p = 0.003$), age group ($X = 16.717$, $p = 0.001$), level of education ($X = 7.112$, $p = 0.029$), and academic experience ($X = 13.049$, $p = 0.001$) (see Table 5).

The majority of faculty members were agree on the advantages of OSCE in that it was more conceptual learning and the feedback given by examiners was very helpful (71.4%, and 77.8%, respectively). Just 44.4% of participants were agree on the advantages of OSCE in that it was very useful and relevant to study and the type of work will be doing after graduation (see Table 6).

More than half of participants agree that OSCE have a disadvantages in that OSCE has a positive impact on students learning, highly accepted by students, improves clinical skills and knowledge of students, no bias in time and questions by examiners (see Table 7).

Discussion

Hence, the OSCE was poorly addressed in nursing education in Arab academic nursing departments [13]; this study is aimed to assess the nursing faculty members' perception toward OSCE to be used as an assessment method of nursing students in their performing of nursing procedures, as well as explore the advantages and disadvantages of OSCE as perceived by study participants.

This study fined that the mean of faculty members' perception toward OSCE is 105.87 which reflects high positive perception with significant $p = 0.001$. Similar high perception results were reached by a previous studies as 91% positive perception [28]; 85% agreed that OSCE is effective as an assessment method [29]. Eighty percent of faculty members agree that OSCE being an objective method in assessing the student's clinical competence [2]. Among those high perceptions' score, some items inside those surveys still have low agreement toward OSCE. The method that used in performing the OSCE is the key of those low agreement items. Therefore, we use two scales to detect that in this study.

In advantages of OSCE, low agreement among study' participants who found OSCE as useful and relevant to study and the type of work will be doing after graduation 44.4%. This could be that the long-term of student's performance still unclear for the faculty members. Also, just 25% of faculty members in another study agree that OSCE help to assess future performance [30]. In disadvantages of OSCE, the faculty members in this study agreed by more than half percentage that OSCE has disadvantages in that OSCE has a positive impact on student learning, highly accepted by students, improves clinical skills and knowledge of students, and no bias in time and questions by examiners. Agreed with the a study item found that the OSCE helps faculty staff to evaluate their level of knowledge with low agree percentage (36%) [29].

Table 5 Association between faculty members' level of perceptions toward OSCE and their demographic characteristics

Variables		Perception		X^2	*p* value
		Negative	Positive		
Gender	Male	0	25	8.238	0.004*
	Female	13	35		
Country	Jordan	13	50	2.511	0.121
	Palestine	0	10		
Type of university	Government	12	29	8.392	0.003*
	Private	1	31		
Previous experience in using OSCE	No	8	38	.015	0.570
	Yes	5	22		
Age groups	35 ≤ year	11	15	16.717	0.001*
	36 < year	2	45		
Level of education	BSc in Nursing	1	11	7.112	.029*
	Master or PhD	12	49		

Table 6 Faculty members' perception regarding objective structured clinical examination (Advantages of OSCE)

Items	Responses				
	SD %	D %	N %	A %	SA %
OSCE has a positive impact on student learning	0	9.5	20.5	54	15.9
It is highly accepted by students	0	20.6	17.5	58.7	3.2
Improves clinical skills and knowledge of students	0	0	27	61	12
No bias in time and questions by examiners	0	7.9	12.7	55.6	23.8
More conceptual learning	0	0	11.1	71.4	17.5
Feedback given by examiners was very helpful	0	0	7.9	77.8	14.3
OSCE is very useful and relevant to study and the type of work will be doing after graduation	0	3.2	33.3	44.4	19

Also, this study agreed with study of [28], which concluded that more than three quarters of participants agreed that only specific questions are to be asked as in checklists and 89.5% of them reported that preparation of stations requires more resources and continuous process.

The characteristic of the participants is a second key to differentiate the perception of participants toward OSCE. This study show that female have more negative perception toward OSCE than male members ($X=8.238$, $p=0.004$). This may explained by that the females are higher worried than male to adopted to the new methods [31, 32]. Moreover, type of university shown that who worked in governmental university have more negative perception toward the OSCE ($X=8.392$, $p=0.003$). Similarly, a study on the quality and objectivity of OSCE found a several perceptions' differences between public and private universities [33]. The age group have a significant difference toward OSCE ($X=16.717$, $p=0.001$) that older participants were have positive perception toward OSCE. In contrast, a study assesses the adoption of technology in the workplace found that younger workers' were more strongly influenced toward using the new methods [32]. On the other hand, the negative perception by who have master or Ph.D. was significant difference ($X=7.112$, $p=0.029$). This may because of the critiquing think for those with high education level. That consistence with the significant result of the participants with more experience years in academic field who have the same critiquing think to exhibit a negative perception toward OSCE too. Hence, this study is the first of describing the differences of the faculty member's characteristics and their perception; few studies were integrated to explained the study results.

Table 7 Faculty members' perception regarding objective structured clinical examination (disadvantages of OSCE)

Items	Responses				
	SD %	D %	N %	A %	SA %
OSCE may be exhausting and lengthy increased number of stations	0	19	17.5	54	9.5
Comprehensive assessment may be possible	0	3.2	33.3	54	9.5
Little difficult to manage time at stations	0	4.8	33.3	52.4	9.5
No direct interaction with examiners	0	7.9	20.6	61.9	9.5

Limitation

Investigating the perceptions of teaching staff regarding the OSCE methods is a worthy endeavor, as the longer-term success of these strategies generally relies on the commitment of the staff involved. In addition, more studies should consider assessing the perceptions and characteristics of teaching staff in nursing education and other health field disciplines, as well as stakeholders such as decision-makers and policies of university managers. Furthermore, the small number of nursing staff who participated in this study was a significant limitation. Regarding future research, it is suggested that conducting several studies based on the correlation between OSCE and faculties and student attitude, satisfaction, and performance on implementation of the OSCE method is warranted in practical skill evaluation.d

Conclusion

OSCE is considered an effective and essential assessment method, and it is an objective method in assessing the student's clinical competence, which OSCE improves the clinical skills and knowledge of students and enhances their self-confidence ensuring a safe, controlled environment without harming patients. On the other hand, OSCE allows new possibilities for nursing faculty to teach several scenarios to nursing students, as well as critical reasoning and feedback on practice and insight into the lived experience. After more studies to exploring the differences of OSCE perceptions and participant's characteristics and the methodological of conduction, this study recommends decision-makers in nursing faculties to integrate the OSCE method in all practical nursing subjects.

Nursing implication

OSCE has been shown to enhance basic nursing skills, build confidence in nursing abilities, and increase satisfaction with learning. It is also a valuable tool for evaluating students' clinical competence prior to graduation and can be implemented throughout the semester and during final exams. Therefore, it is the responsibility of faculty leaders and policymakers to establish the necessary guidelines, regulations, and standards to incorporate OSCE into the nursing curriculum and utilize this assessment method in clinical settings within university nursing labs. Additionally, they should support academic staff by providing workshops and training sessions on implementing OSCE and evaluating students' skills. Furthermore, faculty researchers should conduct various studies on OSCE, exploring its application in different courses, not only in nursing education but also in other medical disciplines.

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Availability of data and material Not available.

Declarations

Ethical approval This study approval from the Scientific and Ethics Research Committees of Al-Quds University was obtained (RESC/2024-3).

Conflict of interest The authors declare no competing interests.

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