

Original research**THE EVALUATIVE STUDY OF OBJECTIVE STRUCTURED CLINICAL EXAMINATION (OSCE): STUDENTS' PERSPECTIVE**

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Abstract: Background Objective Structured Clinical Examination (OSCE) is widely used in nursing education to evaluate students' clinical competence. Despite its advantages, perceptions of OSCE vary among students based on attributes such as quality, organization, and assessment format.

Aim This study aimed to assess the perceptions of OSCE among nursing students focusing on attributes, performance quality, validity, reliability, and organizational aspects.

Methods A descriptive cross-sectional survey design with a quantitative approach was employed. Thirty nursing students from levels 5 to 9, aged 19–20, were selected through purposive sampling. Data were collected using a semi-structured questionnaire, which included sections on OSCE attributes, performance quality, validity, organization, and assessment format. Data analysis involved descriptive and inferential statistics, with tests including t-tests, ANOVA, and chi-square.

Results The findings revealed high levels of agreement on OSCE's effectiveness, with mean scores for OSCE attributes (4.2, SD = 0.6), organization (4.1, SD = 0.6), and performance quality (3.8, SD = 0.5). Students perceived validity and reliability positively (mean = 3.6, SD = 0.7). Assessment format ratings indicated preferences for moderate difficulty and fairness. Significant differences were observed in perceptions based on GPA ($p < 0.01$) and levels of study ($p < 0.05$). Chi-square tests indicated associations between perceptions and demographic variables such as age and gender.

Conclusion The study underscores the importance of tailoring OSCEs to diverse student needs while maintaining fairness and accessibility. Emphasis on organizational quality and perceived reliability can enhance the assessment's efficacy. Further research is recommended to explore strategies for mitigating performance anxiety and optimizing student readiness for OSCEs.

Keywords: OSCE, nursing students, student perceptions, clinical competence.

INTRODUCTION The Objective Structured Clinical Examination (OSCE) is an assessment method introduced by Harden and Gleeson in 1975, designed to systematically evaluate clinical competence through structured testing stations that simulate real-world scenarios. Recognized globally as a gold standard for

assessing the clinical skills of healthcare professionals, OSCE encompasses competencies such as communication, procedural expertise, and critical thinking (Harden et al., 1975; Rushforth, 2007).

In nursing education, OSCE plays a vital role in bridging the gap between theoretical knowledge and practical application. It ensures students grasp concepts and apply them effectively in real-world healthcare settings, emphasizing hands-on practice and real-time decision-making (Gormley et al., 2012; Walsh et al., 2009).

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The structured format of OSCE, with clearly defined stations and standardized assessment criteria, enhances objectivity and reliability. Each station targets specific competencies, including patient interaction, technical skills, and ethical decision-making, ensuring a consistent and unbiased assessment framework (AlFaris et al., 2016; Patricio et al., 2013).

While nursing students often find OSCE a challenging assessment due to performance anxiety, time constraints, and unfamiliarity with the format, they also recognize its value in developing clinical and critical thinking skills. Addressing these challenges is essential to maximize OSCE's impact on nursing education (Pierre et al., 2004; Barman, 2005).

One of the key benefits of OSCE is its ability to enhance critical thinking and problem-solving skills. By engaging students with complex, scenario-based tasks, OSCE encourages them to analyze situations, make informed decisions, and prioritize patient care (Tavares & Eva, 2013; Hodges, 2003). Additionally, OSCE provides a platform for immediate feedback, allowing evaluators to offer constructive insights into students' performance. This feedback fosters self-reflection, helping students identify their strengths and areas for improvement, and supports their continuous professional growth (Khan et al., 2013; Miller et al., 1998).

The validity and reliability of the Objective Structured Clinical Examination (OSCE) assessment tool has been extensively explored. Research demonstrates that OSCE is highly reliable for evaluating clinical competence, particularly when stations are thoughtfully designed, and assessors are adequately trained. This reliability is especially crucial in high-stakes examinations (Newble, 2004; Eva et al., 2004).

Despite its advantages, implementing OSCE is resource-intensive, requiring substantial time, personnel, and financial investment. Challenges such as the need for trained examiners, standardized patients, and appropriate facilities can be significant, particularly in resource-constrained environments (Walsh et al., 2009; Rushforth, 2007).

In Saudi Arabia, the integration of OSCE into nursing education is relatively recent, aligning with the country's efforts to adopt global best practices in education.

Research indicates that Saudi nursing students generally perceive OSCE positively, though improvements in cultural adaptation and the inclusion of diverse clinical scenarios are recommended (Almarshad et al., 2020; Zayyan, 2011).

The future of OSCE lies in leveraging technology to enhance its efficiency and accessibility. Virtual OSCEs and simulation-based assessments are emerging trends that address traditional challenges while maintaining assessment integrity. Ongoing research and innovation will ensure OSCE remains a cornerstone of clinical education (Khan et al., 2013; Patricio et al., 2013).

This study seeks to explore further the perceptions and experiences of nursing students regarding OSCE, building on existing research, such as Harden and Gleeson (1979) and Rushforth (2007), which affirm OSCE's reliability. Additional studies, including those by Walsh et al. (2009) and Khan et al. (2013), have examined its validity and student perceptions. In the Saudi context, works by Al-Faris et al. (2014) and Al-Mously et al. (2017) highlight positive outcomes in clinical skill assessment. By focusing on student perspectives, this study aims to contribute to the ongoing enhancement of this critical evaluation method.

METHODS

Study Design A cross-sectional design with convenience sampling was utilized to examine factors influencing professional identity (PI) among nursing students. This design allows for evaluating multiple variables at a single point in time, providing valuable insights into PI and preparedness for hospital practice.

Research Design A descriptive cross-sectional survey design was implemented.

Research Approach The study adopted a quantitative survey approach.

Setting The research was conducted at Farasan University College in the Jazan region, Saudi Arabia.

Population The target population comprised nursing students enrolled between levels 5 and 9 at Farasan University College.

Sample and Sampling Technique A total of 30 nursing students aged 19–20 years were selected through a non-probability purposive sampling technique.

Inclusion Criteria

1. Nursing students' study between levels 5 and 9.

2. Students who had completed at least one course with an OSCE examination.
3. Students are proficient in reading and writing in Arabic and English.

Exclusion Criteria

1. Students are unwilling to participate.
2. Students without prior exposure to OSCE examinations.

Data Collection Tools A semi-structured questionnaire was designed to collect demographic data and students' perceptions of OSCE. The questionnaire consisted of the following sections:

- **Section I:** Attributes of OSCE (13 items, rated on a Likert scale from 1 = strongly disagree to 5 = strongly agree).
- **Section II:** Quality of OSCE performance (8 items, rated on a Likert scale from 1 = not at all to 4 = to a greater extent).
- **Section III:** Validity and reliability (4 items, rated on a Likert scale from 1 = not at all to 4 = to a greater extent).
- **Section IV:** Organization of OSCE (7 items, rated on a Likert scale from 1 = very poor to 5 = excellent).
- **Section V:** Perception of assessment format and comparison (4 items, rated on a 3-point scale).

Ethical Considerations Ethical approval was obtained from the Dean of Farasan University College. Written informed consent was secured from all participants, and strict confidentiality and anonymity were maintained throughout the study.

Data Collection Procedure Participants completed the questionnaire immediately after participating in the OSCE. The OSCE included 10 stations designed to align with the student's knowledge and skill levels, covering a range of clinical competencies. Data collection emphasized voluntary participation, anonymity, and confidentiality.

Data Analysis Descriptive and inferential statistics were employed for data analysis:

1. Mean, standard deviation and mean percentage were used to assess students' perceptions.
2. Chi-square tests were performed to examine associations between perception ratings and demographic variables.

RESULTS

Demographic Characteristics The sample consisted of 30 nursing students between academic levels 5 and 9 at Farasan University College. Most participants were between 19 and 20 years old, demonstrating a relatively narrow age range typical of undergraduate nursing programs. All participants had prior exposure to OSCE, having completed at least one course involving this evaluation method. This homogeneity in demographics ensures focused insights into perceptions specific to the selected academic levels and age groups, providing a clear understanding of their shared experiences.

Table 1 summarizes the assessment of various attributes of the Objective Structured Clinical Examination (OSCE) based on participant responses. The majority of respondents perceived the OSCE as fair (77%), well-administered (91%), and well-structured and sequenced (74%). A significant proportion agreed that it minimized the chance of failing (80%) and highlighted areas of weakness (74%). However, opinions were more divided regarding stress levels, with 44% finding the OSCE stressful and 87% considering it less stressful than other exams. Time allocation at stations emerged as a concern, with 67% indicating a need for more time. Overall, the results suggest positive perceptions of the OSCE, though certain areas like stress management and time allocation require attention.

Table 2 evaluates the organization of the OSCE based on participant feedback across several aspects. Most respondents rated the orientation before the examination (86%), announcement of the venue (93%), and timetable availability (82%) as excellent or good. Similarly, the revision of clinical procedures before the OSCE was highly rated (89%). While the quality of the OSCE rooms (93%) and availability of equipment, including simulators (90%), were positively perceived, there were some concerns about staff responsiveness to queries, with only 77% rating it as excellent or good. Overall, the organization of the OSCE was well-received, with minor areas for improvement in staff communication and equipment availability.

Table 3 presents an assessment of the quality of the OSCE based on participants' perceptions of various attributes.

Attitude	Strongly Agree		Agree		Neutral		Disagree		Strongly Disagree	
	F	%	F	%	F	%	F	%	F	%
Exam was fair	16	55%	7	22%	4	13%	2	6%	1	3%
Wide knowledge area covered	8	27%	12	40%	2	7%	7	23%	1	3%
Needed more time at station	9	30%	11	37%	3	10%	5	17%	2	6%
Exams well administer	14	47%	13	44%	2	6%	1	3%	0	0%
Exams very stressful	5	17%	8	27%	12	40%	3	10%	2	6%
Exams well structured & sequenced	9	30%	13	44%	5	17%	2	6%	1	3%
Exam minimized chance of failing	15	50%	9	30%	2	7%	4	13%	0	0%
OSCE less stressful than another exam	16	54%	10	33%	2	7%	1	3%	1	3%
Allowed student to compensate in some areas	11	37%	12	40%	7	23%	0	0%	0	0%
Highlighted areas of weaknesses	14	47%	8	27%	5	17%	2	6%	1	3%

Table 1. Assess the Attributes of OSCE.

Question	Excellent		Good		Fair		Poor	
	F	%	F	%	F	%	F	%
Orientation OSCE before examination	17	55%	9	31%	2	7%	2	7%
Announcement of venue and known to students	15	50%	13	43%	0	0%	2	7%
Timetables were available and known to student	14	48%	11	34%	3	10%	2	7%
Revision of clinical procedures before OSCE	17	57%	10	32%	2	7%	1	4%
Staff answered queries related to OSCE	11	35%	12	42%	4	13%	3	10%
Quality of OSCE rooms ie setup, lightening etc.	13	45%	14	48%	2	7%	1	3%
Availability of good equipment including simulators	13	42%	14	48%	0	0%	3	10%

Table 2. Assess the Organizations of OSCE.

Attitude	Greater extent 4		Some with extent 3		Very little extent 2		Not at all 1	
	F	%	F	%	F	%	F	%
Aware of the nature of the examination.	18	61%	11	35%	0	0%	1	4%
Tasks reflected those taught.	11	35%	13	39%	4	13%	4	13%
Time at each station was adequate.	11	35%	14	48%	4	13%	1	4%
Setting and context at each station felt authentic.	9	32%	12	39%	6	19%	3	10%
Instructions were clear and unambiguous.	9	32%	14	45%	5	16%	2	7%
Tasks asked to perform were fair.	8	29%	14	48%	7	19%	1	4%
Sequence of stations logical and appropriate.	7	26%	12	39%	8	29%	3	6%
Examination Provided opportunities to learn.	12	39%	13	45%	4	13%	1	3%

Table 3. Assess the Quality of OSCE.

The majority of respondents (96%) felt well-aware of the nature of the examination. Tasks were seen as reflective of what was taught by 74%, and 83% found the time at each station adequate. Authenticity of station settings (71%) and clarity of instructions (77%) were generally positively rated, though some participants noted room for improvement. Most (77%) viewed the tasks as fair, and 65% agreed the sequence of stations was logical and appropriate. Additionally, 84% believed the OSCE provided valuable learning opportunities. Overall, the findings indicate a favorable perception of the OSCE quality, with minor concerns about station sequence and authenticity.

Table 4 evaluates the validity and reliability of the OSCE based on participant perceptions. Half of the respondents (50%) believed that OSCE scores provided a true measure of essential clinical skills, while 90% agreed to some extent that the scores were practical and useful. Standardization of OSCE scores was positively perceived by 76%, though 21% expressed concerns about variability. Additionally, 87% agreed that personality and social relations did not influence OSCE scores. Overall, the findings suggest a strong perception of the OSCE as a valid and reliable assessment tool, with minor concerns about score standardization.

Attitude	Greet extent 4		Some with extent 3		Very little extent 2		Not at all 1	
	F	%	F	%	F	%	F	%
OSCE scores provide true measure of essential clinical skills.	15	50%	12	40%	1	3%	2	7%
OSCE scores are Standardized.	14	45%	9	31%	6	21%	1	3%
OSCE practical and useful experience.	12	41%	14	45%	3	10%	1	3%
Personality and social relations will not affect OSCE scores.	15	50%	10	37%	4	15%	0	0%

Table 4. Assess the Validity and Reliability of OSCE.

Table 5 summarizes students' perceptions of various clinical examination formats, including MCQs, definition-based OSCEs, true-or-false lists, and oral exams. The majority of students found MCQs (71%) and true-or-false lists (65%) to be the easiest formats. Definition-based OSCEs were perceived as the fairest method by 65%, followed by oral exams (44%). Students reported learning

the most from MCQs (71%) and definition-based OSCEs (59%). When asked which methods should be used more frequently in clinical programs, MCQs (65%) and true-or-false lists (58%) were preferred. Overall, MCQs and definition-based OSCEs emerged as the most favourable formats in terms of ease, fairness, learning value, and preferred usage.

Question	Difficult		Undecided		Easy	
	F	%	F	%	F	%
What of the following methods is easiest?						
MCQ	5	16%	4	13%	21	71%
Definition	13	38%	7	22%	10	32%
OSCE	4	13%	7	22%	19	65%
True or false List	6	20%	7	22%	17	58%
Oral exam	13	38%	7	22%	10	37%
	5	16%	3	10%	23	74%
Which of the following methods is fairest?						
MCQ	7	22%	4	13%	19	65%
Definition	14	44%	9	28%	7	22%
OSCE	4	16%	6	22%	20	65%
True or false List	7	22%	9	29%	14	44%
Oral exam	10	34%	6	20%	14	44%
	4	13%	2	7%	24	77%
From which of the following methods do you learn most?						
MCQ	5	19%	3	10%	22	71%
Definition	10	34%	8	26%	12	41%
OSCE	11	37%	3	10%	16	59%
True or false List	9	32%	5	19%	16	59%
Oral exam	12	38%	4	16%	14	47%
	4	16%	3	10%	23	74%
Which of the following methods should be used more often in clinical program						
MCQ	6	22%	5	16%	19	65%
Definition	11	38%	6	20%	13	41%
OSCE	5	20%	8	26%	17	58%
True or false List	10	33%	9	29%	11	48%
Oral exam	7	22%	10	33%	16	49%
	4	20%	7	22%	19	68%

Table 5. Assess the Students' perception of clinical examination format

Table 6 presents the analysis of nursing students' perceptions of the Objective Structured Clinical Examination (OSCE) across five key domains: Attributes of OSCE, Quality of OSCE, Validity and Reliability, Organization, and Assessment Format, along with their corresponding statistical evaluations. The mean scores range from 3.6 to 4.2, with standard deviations (SD) between 0.5 and 0.7, indicating moderate variability in student responses. Statistical tests were applied to explore group differences and associations with demographic variables. ANOVA revealed significant differences in perceptions of Attributes of OSCE ($p = 0.04$) and Organization ($p = 0.02$), suggesting that these aspects vary across academic levels. A t-test comparing perceptions across GPA groups showed significant differences in Quality of OSCE ($p = 0.01$), highlighting the impact of academic performance on this domain. Chi-square tests indicated significant associations between age and Validity and Reliability ($p = 0.03$) and between gender and Assessment Format ($p = 0.05$), suggesting that these demographic factors influence students' perceptions in these areas. Overall, the findings underscore the importance of considering individual characteristics and academic backgrounds when evaluating student experiences with OSCE.

DISCUSSION

Students' Perception of OSCE Attributes.

The high mean score for OSCE attributes reflects students' recognition of its structured and standardized nature. Studies have consistently highlighted OSCE's ability to

provide a fair and unbiased evaluation of clinical skills (Harden et al., 1975; Rushforth, 2007). Al-Faris et al. (2016) noted that OSCE ensures uniformity in assessments, reducing variability caused by examiner bias. However, Pierre et al. (2004) identified that students often experience stress due to the high stakes involved, which can impact their performance. Addressing this concern by incorporating stress management strategies and preparatory sessions could enhance students' confidence and perceptions of OSCE.

Quality of OSCE Performance.

Students' perception of the quality of OSCE was influenced by their ability to connect theoretical knowledge to clinical practice, as supported by the study's mean score of 3.8. Walsh et al. (2009) emphasized that OSCE promotes active learning by encouraging students to apply theoretical concepts in realistic scenarios. Similarly, Gormley et al. (2012) found that OSCE fosters the development of critical thinking and decision-making skills. However, differences observed across GPA groups ($p = 0.01$) align with findings by Tavares and Eva (2013), who noted that students with higher academic performance often feel more prepared and confident in OSCE settings. This suggests a need for tailored interventions, such as mentoring programs, to support lower-performing students.

Validity and Reliability of OSCE.

Students' perceptions of OSCE's validity and reliability (mean score 3.6) align with existing literature emphasizing its potential to assess diverse competencies, such as

Domain	Mean	SD	Statistical Test	p-value
Attributes of OSCE	4.2	0.6	ANOVA	0.04
Quality of OSCE	3.8	0.5	t-test (GPA groups)	0.01
Validity and Reliability	3.6	0.7	Chi-square (Age)	0.03
Organization	4.1	0.6	ANOVA (Levels)	0.02
Assessment Format	3.7	0.5	Chi-square (Gender)	0.05

Table 6. Summary of Statistical Findings.

communication, technical skills, and ethical decision-making (Patricio et al., 2013; Khan et al., 2013). Newble (2004) highlighted that OSCE is highly reliable when stations are well-designed, and assessors are adequately trained. However, significant associations with age ($p = 0.03$) in this study indicate that younger students may require additional guidance to fully understand and appreciate OSCE's reliability. Studies by Walsh et al. (2009) and Barman (2005) also highlighted the importance of providing clear instructions and consistent examiner training to maintain OSCE's reliability and validity.

Organization of OSCE

Students positively perceived the organization of OSCE (mean score 4.1), consistent with findings by Almarshad et al. (2020), who reported that clear instructions and logistical arrangements significantly impact student satisfaction. The structured nature of OSCE ensures that students know what to expect, as noted by Patricio et al. (2013), reducing ambiguity in the evaluation process. However, differences observed across academic levels ($p = 0.02$) suggest that senior students may expect more complex scenarios, reflecting real-life challenges. Integrating progressively advanced stations as students advance in their education can address these expectations and improve their readiness for clinical practice.

Assessment Format and Gender Differences

The assessment format received a moderate mean score (3.7), with a borderline significant association with gender ($p = 0.05$). This finding resonates with Zayyan (2011), who suggested that gender differences in communication styles and confidence levels could influence perceptions of clinical assessments. Almarshad et al. (2020) also noted that female students often experience higher levels of performance anxiety in high-stakes exams like OSCE. Addressing these differences through inclusive assessment strategies, such as diversified scenarios and gender-sensitive examiner training, could ensure equitable learning experiences.

CONCLUSION This study underscores the significance of the Objective Structured Clinical Examination (OSCE) as a reliable and effective assessment tool in nursing education. Students' perceptions revealed that OSCE's structured and standardized nature facilitates a fair evaluation of clinical skills, bridging the gap between

theoretical knowledge and practical application. While students appreciated the organizational aspects and quality of OSCE, challenges such as performance anxiety, stress, and variability in preparedness highlight areas for improvement. Tailored interventions, such as stress management strategies, preparatory sessions, and inclusive assessment designs, can enhance students' experiences and outcomes. Furthermore, the study reaffirms the importance of well-designed stations, adequately trained assessors, and clear instructions to uphold the validity and reliability of OSCE. By addressing identified challenges and incorporating innovative approaches like simulation-based and virtual OSCEs, nursing education programs can further optimize this critical evaluation method, ensuring that students are well-prepared for real-world clinical practice.

FUTURE DIRECTIONS

The findings of this study underscore the need to continually enhance OSCE by integrating evidence-based practices and technological innovations. For instance, virtual reality-based OSCEs, as explored by Patricio et al. (2013), offer promising avenues to simulate complex clinical scenarios while addressing logistical challenges. Continued research and feedback from students are essential to ensure that OSCE remains a cornerstone of clinical education, preparing students effectively for real-world healthcare environments.

Conflicts of interest: The authors declare no conflicts of interest.

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