

# Planning and Implementing Objective Structured Clinical Examination (OSCE) as a Clinical Examination Method in Mental Health Nursing: Perceptions of Undergraduate Nursing Students in Oman; A Pilot Study

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## Abstract

**Objective:** The main objective was to explore the perceptions of undergraduate nursing students on OSCE as a method of clinical evaluation in mental health nursing clinical examination and to compare the scores of written clinical examination and OSCE in mental health nursing.

**Method:** A quantitative research using descriptive survey design was done among Baccalaureate Nursing students enrolled for Mental Health Nursing Clinical Course, NURS 3017 in the spring 2018. Pierre et al's (2004) OSCE evaluation questionnaire was used to assess student's perception about OSCE.

**Results:** A paired t test was conducted to compare the scores of OSCE and final written clinical examination. There was a significant difference in the mean scores of OSCE (Mean=31.03, SD=3.05) and written clinical examination (Mean=29.67, SD=3.35);  $t=2.24$ ,  $p=.031$ . These results suggests that students scored better in OSCE as compared to written clinical examination. The perception of the students towards OSCE as a clinical examination method shows that 51% of the students prefer OSCE over clinical written examination.

**Conclusions:** It is a mandatory requirement for nurse educators today to have a patient safety curriculum. OSCE gives a fair chance to all the students to go through same process of evaluation and examiners can make sure every student has learned necessary skills appropriately to provide comprehensive care in the respective field. Hence OSCE should be integrated with other method of clinical evaluation in mental health nursing education in Oman.

**Keywords:** *Objective structured clinical examination, nursing, mental health, clinical examination.*

## Introduction

Objective Structured Clinical Examination is used to evaluate medical scholars since 1970s, and recently being used increasingly by nursing and other allied health professionals. Since OSCE gives a fair chance to evaluate all the students through the same process it can be incorporated mandatorily into educating and evaluating health professionals.<sup>(1)</sup>

The conventional clinical and practical examination is overwhelmed with several problems. A study aimed

to compare OSCE vs Traditional evaluation method (TEM) in assessing the skills of nursing students was carried out and to obtain opinion about OSCE and TEM from participants and evaluators of OSCE. There was 100% agreement toward the usefulness of OSCE as an evaluation method by the nursing student and the clinical instructors.<sup>(2)</sup>

Communication is the essence of mental health care. OSCE has been found as an alternative evaluation method to assess communication skills of the students. Studies have demonstrated that the validity of the OSCE scores depends on the quality of the rating scales used in OSCE.<sup>(3)</sup>

Student's feedback is the most appropriate measure for successful organization and implementation of the OSCE and also provides directions for further

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improvement. For the best use of OSCE as a method of evaluation, one must judiciously formulate and pilot new OSCE stations and the checklists in order to ensure the reliability and validity of examination, and also carefully consider the type of skills to be evaluated, duration and interdependence of stations to confirm the students has achieved mandatory skills to practice in the selected clinical specialty.

### Method

A quantitative research using descriptive survey design was done among Baccalaureate Nursing students enrolled for Mental Health Nursing Clinical Course, NURS 3017 in the spring 2018. Permission for the study was obtained from ethical committee of College of Nursing, Sultan Qaboos University. The results were analyzed using SPSS 22 version. Level of statistical significance was set at  $p < 0.05$ .

Sultan Qaboos University at Oman encourages the use of OSCE as one of the assessment method in clinical course. The present study was conducted among 39 students to assess their perception on OSCE as a clinical examination method in mental health nursing. At the time of data collection this was the only available students enrolled for the course. In order to preserve anonymity each student was assigned a number from 1 to 39.

There were a total of 4 stations with multiple skill assessments. Station 1: a manned station with assessment of history, Mental status examination and communication skills. A simulated patient was trained to act out the role of the patient as per the scenario. Patients with different diagnosis were presented to avoid contamination. Station 2: Unmanned station, on pharmacological management of mental and behavioural disorders. Station 3: skill station on restraints and ECT with a simulated patient for the related clinical skill performance on aggression management, pre ECT and post ECT care. Station 4: a case scenario is kept at the station, student is expected to read and analyse the case and formulate 3 prioritized nursing diagnoses and explain the first priority nursing diagnosis. A total of 12 minutes per station is allowed for the students for station and the students are expected to switch over the station as the bell rings. Every station was evaluated out of 10 and an average was computed on 20. A mock OSCE was carried out in the previous week to familiarize the students and examiners to the OSCE process.

Following the OSCE the student's perceptions on OSCE as a method for clinical evaluation was collected in the classroom on the same day by using Pierre et al's (2004) OSCE evaluation questionnaire.

The questionnaire consists of 30 items grouped into 4 sections i.e.; student evaluation of OSCE attributes (12 items), student evaluation of quality of performance testing of OSCE (8 items), students perception of validity and reliability about OSCE (4 items) and students perception regarding OSCE organization (6 items). It is a standardized valid and reliable tool (0.82) in the public domain and could be used without special permission.

The students had a written clinical examination at the same week for 1 hr with 30 multiple choice questions assessing various domains of learning. Comparison of student's score of written clinical examination with OSCE was done using paired t test.

### Findings

The data were analysed using the statistical package for social sciences version 22. A test for normality, the Kolgorov-Smirnov goodness of fit test, was carried out on each item. The data was normally distributed.

**Table 1: Descriptive statistics showing sample characteristics n=39**

Sl. No.	Item	Category	Frequency (f)	Percentage (%)
1.	Gender	Male	10	26
		Female	29	74
2.	Age in years	20-21	26	66
		22-23	13	34
3.	Number of clinical postings completed	3	36	92
		4	1	3
		5	2	5
4.	Experienced OSCE before	Yes	39	100
		No	0	0
5.	Current experience with OSCE	Excellent	4	10
		Very Good	8	20
		Good	24	62
		Poor	3	8
6.	Do you prefer OSCE over clinical written	Yes	22	56
		No	17	44

Table 1 shows that 29(74%) were females, 26 (66%) were belonging to the age group of 20-21 years, 36(92%) had completed 3 clinical postings prior to this course, all of them 39(100%) experienced OSCE before, 24(62%) had good experience with OSCE and 22(56%) prefer OSCE over clinical written examination.

**Table 2: Students perception on OSCE attributes n=39**

Sl. No.	OSCE Attributes	Agree f & (%)	Neutral f & (%)	Disagree f & (%)
1.	Exam is fair	17 (44)	13(33)	9 (23)
2.	Wide knowledge area is covered	23(59)	10(26)	6 (15)
3.	Need more time at stations	30(77)	2(5)	7 (18)
4.	Exam well administered	20 (51)	5(13)	14 (36)
5.	Exam well-structured and sequenced	20 (51)	7(18)	12 (31)
6.	Exam minimized chance of failing	19 (49)	8(21)	12 (31)
7.	OSCE less stressful than other exams	16 (41)	1(3)	22 (56)
8.	Allow student to compensate in some areas	26 (67)	7(18)	6 (15)
9.	Highlighted areas of weakness	24 (62)	8(21)	7 (18)
10.	Exam is intimidating	13 (33)	12(31)	14 (36)
11.	Students are aware of level of information needed	20 (51)	8(21)	11 (28)
12.	Wide range of clinical skill is covered	30 (77)	3(8)	6 (15)

Table 2 shows 30(77 %) of the students agreed that OSCE covers a wide range of clinical skills and they need more time at each station. 26 (67%) agreed that OSCE allowed the student to compensate in some areas. 24(62%) agreed that OSCE highlighted areas of weakness, 23(59%) agreed that wide knowledge area is covered in OSCE, 20(51%) agreed that exam is well administered, well-structured and sequenced and students are aware of the level of information needed. 19 (49%) agreed that OSCE minimized the chance of failing, 16(41%)agreed that OSCE is less stressful than other exams. Also 14(36%) of them disagreed that exam is intimidating.

**Table 3: Student evaluation of quality of performance testing of OSCE n=39**

Sl. No.	OSCE Organization	Agree f & (%)	Neutral f & (%)	Disagree f & (%)
1.	Fully aware of the nature of exam	26 (67)	7 (18)	6(15)
2.	Tasks reflects those taught	25 (64)	6 (15)	8(21)
3.	Time at each station was adequate	15 (38)	18 (46)	6(15)
4.	Setting and context at each station feels authentic	14 (36)	9 (23)	16(41)
5.	Instructions and clear and unambiguous	23 (59)	3 (8)	13(33)
6.	Tasks asked to perform are fair	20 (51)	11 (28)	8(21)
7.	Sequence of stations are logical and appropriate	25 (64)	9 (23)	5 (13)
8.	Exam provides opportunities to learn	21 (54)	11 (28)	7 (18)

Table 3 shows that 26(67%) agreed that they were fully aware of the nature of OSCE exam, 25(64%) agreed that OSCE tasks reflects those taught, 18(46%) had neutral perception on time at each station. 16(41%) had disagreed that the setting and context at each station feels authentic. 23(59%) had agreed that the instructions were clear and unambiguous, 20(51%) agreed that the tasks they were asked to perform were fair, 25(64%) had agreed that sequence of stations are logical and appropriate. 21(54%) agreed that exam provided an opportunity to learn.

**Table 4: Students perception of validity and reliability about OSCE n=39**

Sl. No.	OSCE Organization	Agree f & (%)	Neutral f & (%)	Disagree f & (%)
1.	OSCE exam scores provide a true measure of essential clinical skills	26 (67)	9 (23)	4 (10)
2.	OSCE Scores are standardized	18(46)	11 (28)	10 (26)
3.	OSCE is a practical and useful experience	24(62)	9 (23)	6 (15)
4.	Personality, ethnicity and gender of group will not affect OSCE Scores	24(62)	8 (21)	7 (18)

Table 4 shows that 26(67%) of the students agreed that OSCE provides a true measure of essential clinical skill, 18(46%) agreed that OSCE scores are standardized, 24(62%) agreed that OSCE is a practical and useful experience and personality, ethnicity and gender of the group will not affect OSCE scores.

**Table 5: Students Perception regarding OSCE organization n=39**

Sl. No	OSCE Organization	Agree f & (%)	Neutral f & (%)	Disagree f & (%)
1.	The announcement about the place of OSCE examination was done well in advance	25(64)	11(28)	3(8)
2.	The time tables of OSCE examination were available and known to student early	22(56)	7(18)	10(26)
3	The revision done before the examination about the different types of clinical procedure	22(56)	11(28)	6(15)
4.	Gave general idea about the OSCE before exam process	23(59)	8(21)	8(21)
5.	The staff were cooperative to answer your questions related to the organization of the examination	21(54)	8(21)	10(26)
6.	The quality of the OSCE labs were good, from set up and cleanliness, suitable, lightening, quietness and ventilation.	21(54)	9(23)	9(23)

Table 5 shows that 25(64%) of the students agreed that announcement of place of OSCE was done in advance. 22(56%) agreed that time table of OSCE were available and known to student early, 22(56%) agreed that revision was done before the examination about

different types of clinical procedure, 23(59%) agreed that they were given a general idea about the OSCE before the exam process, 21(54%) agreed that the staffs were cooperative to answer the questions related to the organization of examination.

### OSCE versus clinical written examination scores

**Table: 6 Comparison of mean scores of OSCE and clinical written examination n=39**

Type of examination	Mean score	SD	Paired differences			t	df	Sig.
			Mean	SD	Standard Error mean			
OSCE	31.03	3.02	1.37	3.81	0.61	2.238	38	.031
Clinical Written Examination	29.7	3.35						

Paired t test was calculated to compare the mean scores of OSCE and clinical written examination. There was a significant difference in the mean scores of OSCE (Mean=31.03, SD=3.02) and written clinical examination (Mean=29.67, SD=3.35),  $t=2.238$ ,  $p=.031$ . These results suggests the students scored better in the OSCE as compared to written clinical examination.

### Discussion

One way to improve the effectiveness of OSCE is to take feedback from teachers and students who were part of it in planning and implementing the same. According to the current study, more than half of the participants agreed that OSCE is fair and wide knowledge area is covered in OSCE, OSCE minimized chance of failing. 77% agreed that OSCE is well administered and wide knowledge area is covered in OSCE.

In the current study student evaluation of quality of performance testing of OSCE revealed that more than half of the students agreed that they were fully aware of the nature of the exam, stations reflected tasks that is taught, and exam provided an opportunity to learn. Similar reports were identified in a study who found that most of the students reported that OSCE was fair and nearly two thirds of them reported that OSCE minimized chance of failing, covered a wide range of clinical skills and was well administered. <sup>(4)</sup>

In a study of perceptions of medical students on OSCE as an assessment tool, 72% of them said adequate information was given prior to the examination, 51% said OSCE was stressful, 57% agreed that the time allotted at each station was insufficient and 84% mentioned that OSCE is an acceptable method to assess practical skill for undergraduate medical students. <sup>(5)</sup>

In the present study, 64% agreed that information about OSCE exam was given well in advance and the instructions were clear and unambiguous by 59%, 33% said OSCE is stressful 77% agreed that they need more time at individual station, 67% agreed OSCE is a true measure of essential clinical skills.

The present study also aimed to compare the scores of OSCE versus clinical written examination. These results suggests that students scored better in the OSCE as compared to written clinical examination when their clinical skills were assessed.

### Conclusion

The student's feedback regarding the introduction of innovative teaching learning method in the undergraduate nursing education is essential in designing more innovative and successful teaching learning activities in the future. The results of the study revealed that though some of the students had an initial resistance in the preparatory phase of OSCE more than half of them recommend to use OSCE in evaluating clinical skills and they prefer OSCE over traditional written clinical examination.

**Ethical consideration:** Ethical permission was obtained from the college research and ethics committee dated 21/03/2018 (REC/2017-2018/09) for conducting the study. Written consent was obtained from all the participants and the participants were promised anonymity and confidentiality of their grades being used in comparison as part of data collection.

**Conflict of Interest:** No conflicts of interest is expressed by all the participants

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