

Students' Perception of Objective Structured Clinical Evaluation (OSCE) versus Clinical Practical Evaluation (CPE) and their Achievement

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Abstract: Clinical assessment is a crucial part of nursing training . It helps for assessing nursing students, ensure competencies that is acts on the delivery of quality nursing care. Two commonly approved strategies to guide the formulation of valid and reliable assessment method for assessing variety of learning domains in clinical nursing education programs have been proposed namely Objective Structured Clinical Examination (OSCE) and Clinical Practical Examination (CPE) in nursing education programs. The aim of this study is to assess students' perception of objective structured clinical evaluation (OSCE) versus clinical practical evaluation (CPE) and their achievement.

This helps to determine best preferred method for clinical assessment among nursing students.

Design: The study utilized one-group quasi experimental design. OSCE and CPE which is experimental are both forms of practical examination for assessing nursing students in this study. All third-year students who are registered and attended the psychiatric nursing course clinical training program during the Academic year 2015-2016 were participated in the study. A total of 88 students were involved in the study. These students were assessed by both OSCE and CPE using a developed structured questionnaire after completing a 16-week clinical training in psychiatric & mental health nursing course.

Results: OSCE was perceived in a much positive way in term of quality of performance as compared to CPE, Yet , no significant difference existed between the mean scores of the two practical examinations in term of exam structure, organization and instructions. OSCE was perceived to be more helpful, excited, more objective, demands more preparation than CPE. During OSCE, students were more aware of the nature of the exam and the level of information needed than during the CPE. Moreover OSCE was perceived to be less stressful, intimidating, threatening, destabilizing, and less time consuming as compared to CPE. Furthermore students were more generally satisfied and recommended OSCE more than CPE as students ' final scores obtained from OSCE were higher than they obtained from CPE.

Conclusion: OSCE method of practical examination is more effective in assessing nursing students' clinical competency and perceived to be more effective than CPE. It is recommended to use OSCE as an effective method of practical examination for psychiatric nursing training programs.

Keywords: OSCE, CPE, Competence, Rubric, Blueprint, Evaluation.

1. INTRODUCTION

Currently rapid changes in health environments require nursing students to be highly trained and qualified. Clinical examination is a crucial part of nursing training programs for assessing nursing student competencies that will ultimately lead to high quality nursing care. Evaluation of nursing students' competency is critical to assure patient safety and maintain high standard practice of nursing. Competencies refer to the combination of knowledge and developing skills needed to perform a specific task in a given context. ^(1,2)

Globally, evaluation of nursing students' clinical performance continues to have multiple challenges for nurse educators due to the diverse nature of nursing practice. In Arab countries, there are no commonly approved strategies to guide the formulation of valid and reliable assessment method for evaluating the different learning outcomes in the domain of nursing education programs ^(3,4).

Two methods of clinical assessment have been identified by nurse educators as means of practical evaluation .These are the Objective Structured Clinical Examination (OSCE) and the traditional clinical practical examination . Nurse educators have always used the traditional clinical practical examination for clinical examinations but only recently they have adopted the OSCE as a mean of evaluation in general nursing specialty. Psychiatric nursing has been slow to adopt this evaluation method which has only recently been introduced to psychiatric nursing education ⁽⁵⁾. This was also the case with College of Nursing, University of Dammam, Saudi Arabian, where OSCE was first introduced in College of Nursing by the Psychiatry and Mental Health Nursing unit during the academic year 2015-2016.

For centuries, the traditional clinical practical examination has been the predominant method and sometimes the only method for clinical skills assessment . The traditional method gives the examiner freedom to vary the questions from one student to another. This approach has been shown to have many deficiencies . Traditional clinical practical examinations as a tool for evaluating clinical nursing skills have mainly been criticized as lacking reliability as well as questioning its validity . Marks given to students by different examiners indicate low reliability between the ratings of student for different procedures. Agreement between examiners is often poor and there is variation in questions asked between them. During traditional clinical practical exams few examiners are involved in evaluating students in different clinical areas of practice and with different patients' conditions. Students are evaluated based on specific clinical procedures and ability to interact effectively with patients in their real wards. Although there is a common checklist for each examiner for the assessment of students, the questions asked are usually not consistent ^(6,7,8).

Objective Structured Clinical Examination (OSCE) method has been claimed to be an effective and powerful tool for evaluating the clinical nursing skills of nursing students not only in general nursing but also in psychiatric nursing examinations. Different studies have confirmed that OSCE is a fair and objective method in assessing clinical skills and is an essential component of health professions education. The OSCE aims to enhance the validity of clinical assessment by simulating realistic clinical scenarios to reflect real-life professional tasks. During the traditional clinical practical examination, nursing students may lose their motivation and confidence if they cannot demonstrate adequate nursing performance activity with patients and are uncertainties to access the patients because of their poor skills. The OSCE help students gain more confidence by confronting them with technical instruments, being present in a safe environment, resembling the hospital environment, and encourage them to reflect on a range of skills and competences they have to acquired. OSCE has attracted considerable attention because of its high level of reliability, validity ,credibility and objectivity. It also help in creating motivation for learning. In general instructors and students satisfaction were reported more with the use of OSCE . In contrast, other study conducted using OSCE in community nursing, illustrated that students' perceived OSCE as a more stressful examination and difficult more than tradition practical exam. Moreover, students disagreed that OSCE type of assessment is a valid and reliable clinical assessment tool^(7,10)..

There is no doubt that a valid and reliable clinical assessment tool can serve as a guide to enhance the clarity in assessment of variety of domains learned in nursing education program. Studies recommended that before starting clinical training it is important to assess students' satisfaction with the planned evaluation methods. This can be helpful and effective strategy in motivating students learning and maintaining their retention ^(,10,11).

Despite the benefits of OSCE reported in the literatures about the appropriateness of these evaluations tools for evaluating clinical abilities of nursing students, few studies are available to compare the effectiveness of OSCE versus clinical practical evaluation (CPE) in term of students' achievement and perception as methods of clinical evaluation specially in the field of psychiatric and mental health nursing. Furthermore, professional educators should make informed decisions regarding the most effective evaluation in term of different variables including, students' satisfaction, objectivity and achievement. The current study aims to compare the effectiveness of OSCE versus Clinical Practical Examination (CPE) in term of students' perception regarding the exams structure, instructions, organization, and quality of performances. Moreover, the current study aims to determine the students' perception regarding their overall satisfaction, and achievement as a two methods of clinical evaluation. This helps to determine best preferred method for clinical assessment among nursing students^(10-11,12).

Aim of the study:

The main aim of this study is to The aim of this study is to assess students' perception of objective structured clinical evaluation (OSCE) versus clinical practical evaluation (CPE) and their achievement.

Hypothesis

Psychiatric nursing students have higher achievement scores when evaluated by OSCE than when evaluated by CPE method. Psychiatric nursing students view OSCE as more effective method for assessment of clinical competences than CPE method.

Study Design

The study utilized one-group quasi experimental design. A developed structured questionnaire administered to all 3rd year nursing students (No = 88) who had previously passed through a 16-week clinical training and had been assessed using both CPE and OSCE.

Subjects & Setting

All third-year students registered in psychiatric nursing course and attended the clinical training program of the psychiatric and mental health nursing during the academic year 2015- 2016 were participating in the study. A total of 88 students were involved in the study. Participant students were evaluated by both OSCE and CPE after completing a 16-week clinical training at psychiatric & mental health nursing . Inclusion criteria were willingness to participate in the study and having no excessive absences from the class sessions. An absence of more than three sessions was selected as the exclusion criteria.

The CPE were conducted at the male and female psychiatric wards at King Fahd University Hospital, and the OSCE took place at the OSCE lab of the College of Nursing, University of Dammam, Saudi Arabian.

Tools of Data Collection:

Two instruments were developed by the researchers' team after thorough review of literature^(10, 13-15) to fulfill the aim of the study. These are: Student Perception Questionnaire and the students' Achievement Checklist Rating Scale.

The Students' Perception Questionnaire consisted of 4 parts:

First Part Comprised data about students' perception regarding the structure of the two mentioned evaluation methods. It was composed of 10 items covering students' perception about a wide range of clinical skills and knowledge. students were also asked about the sequence logic and appropriateness of the questions as well as the objectivity , reliability and validity of the methods.

Second part is concerned with students perception regarding the instructions and organization of the evaluation methods. It include seven items as "Exams are well administered, organized and sequenced, setting and context are authenticetc."

Third part Includes 10 items related to students' perceptions of the quality of their performance ,the quality of the experience ,fairness of the method , threat and stress associated with the two methods . The items of part 1 & 2& 3 were measured on a five point Likert scale ranging from strongly agree (= 5) to strongly disagree (= 1).

Fourth part: concerned with students' overall satisfaction with the evaluation methods , whether they would recommend this type of exam as part of the course curriculum or not? and how would they rate the exams on a four point likert scale? (very good, good, fair or poor).

The Students' Achievements Checklist Rating Scale:

Students' achievements checklist rating scale was performed using specific prepared checklists for each evaluation methods based on the expected learning outcomes and the blueprints to accurately rate student achievement on each evaluation method . Each checklist contains a specific competence broken down into steps, which are scored using a 3point likert scale that indicate whether the element was satisfactory done (2), unsatisfactory done (1), or not done (0). The number of items present in the checklist of each station of the OSCE varied from 10 to 20 and students total scores was created by converting the sum of student's total stations grades to a proportion of grade 20. For the CPE the checklist were scored in a range from 0 to 20 grades and the students were scored using rubrics in addition to the checklist according to the patients' conditions.

Tools were tested for their validity by a jury of four experts in the field of psychiatry and a specialized faculty member from the medical education department of the university. The needed modifications were carried out. Reliability was also confirmed using the Cronbach's alpha coefficient (0.80)

2. METHODOLOGY

Planning for the use of the two evaluation methods:

In order to implement the two evaluation methods preparation of nursing instructors , environment and required resources had to be performed .This phase (the planning phase) lasted for three months and was performed according to the following steps:

- **Training of nursing staff involved in the implementation of the OSCE:**

A total of 3 training workshops about OSCE were held by the medical education center of the University and attended by all faculty and clinical instructors involved in the implementation of the OSCE. The aim of this workshop is to build up the capacities of the staff on the process of OSCE and formulation of clinical scenarios and checklist. Approximately 6 clinical instructors and 8 faculty members (including the researchers of this study) were trained for implementing the OSCE and collection of data.

- **Identification of the competencies:**

The competencies to be evaluated were identified and formulated by the researchers based on the course objectives and curriculum. Blueprint of the OSCE stations was also formulated.

- **Planning for the required resources**

An OSCE lab, 2 class rooms and a clinical skills laboratory were organized. All required facilities computers and stationery materials were prepared.

- **Development of OSCE stations and case scenarios based on the identified competencies:**

The numbers and nature of stations were determined based on the identified competencies, the blueprint and the available facilities. OSCE examination consisted of 12 stations each assessing one practical skill. Among them 6 were dynamic interactive stations and 6 were static.

Dynamic Interactive stations; Clinical Scenario / Standardized Patients (SPs) included: Station 1: Assessment of perception (Hallucinations, Delusions)

Station2: Management of delusion or hallucination. Station 3: Assessment of Suicidal patient

Station 4: Breaking bad news

Station 5: Cognition, affective and behavior Assessment Station 6: Counseling/Medication session

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Static stations included:

Station 7: Symptomatology/ Videotape

Station 8: Communication techniques/ Scenario Station 9: Neurobiology station / Figures

Station 10: Bipolar disorders / Clinical scenario computer interactive base

Station 11: depression / Clinical scenario computer interactive base Station 12: schizophrenia / Clinical scenario computer interactive base

As examinations were planned for 2 days, new set of OSCE had to be displayed in each day, but basic pattern of assessment was stable.

• Students preparation:

Students were given an orientation on the structure and what was expected of them at the beginning of the course. In addition, a lecture about OSCE system was introduced to the students in the first day of the program. Students' instructions, map and checklist of each station were also provided.

• Development of Scenarios, Checklists Rating Scales and Rubrics

The standards for student evaluation as scenarios, checklists rating scales and rubrics etc. were developed by the researchers after reviewing the related literatures (10, 13-15). All developed scenarios, checklists and rubrics were reviewed by a combined team drawn from the faculty members of the college of nursing and from the medical education department of the University. An OSCE station map for each student was used to move students through the stations. Testing the applicability of OSCE, a mock OSCE was conducted one week prior to the date of examination. The mock OSCE was used to pilot the OSCE map, scenarios and checklists. The Mock was established to determine whether the time allocated is adequate for the performance of different skills. The mock OSCE was also used to check the agreement regarding the scoring system and allocation of marks. During the mock OSCE, clinical instructors acted as students while faculty acted as examiners and standardized patients.

2) Implementation Phase

After completion of 16 weeks of clinical training in the Psychiatric & Mental Health Nursing, students' competencies were assessed using both OSCE and the CPE methods. Each student was evaluated by both methods of evaluation in two consecutive weeks. Half of the studied nursing students were randomly scheduled to complete the OSCE as their first track method of evaluation while the other half completed the CPE. The two groups were switched to the alternate exam method in the next week.

Implementation of the OSCE was carried out at the OSCE lab of the college. At first, all students were gathered in a class to prevent information exchanging during the test. Students proceeded through each station, completing a practical technique and answering a related theoretical question. One examiner was allocated to each clinical station, and an additional two people assisted the staff members, one handling the logistics of moving students between station, and the other keeping time. Some of faculty members and clinical instructors of the college were assigned to act as standardized patient during the implementation of the main OSCE. Each station aimed to test a particular clinical competence for ten minutes each (two minutes' changeover and reading time, and eight minutes for the assessment). Stations may use standardized patients, scenarios, role playing patients, or video patient presentations or figures. The students were asked to perform what they were asked to do, leave the current station after hearing the bell voice and enter the next one and similarly turn in next station. The examiner present in each station rated the students' performance using a specific checklist. Finally, examiners weighted the total scores of the stations and summed them up to yield a total score for each student ranging from 0 to 20. After the last station, the students responded to the questionnaire about their perception about the evaluation method again.

• **Implementation of CPE.** the clinical practical exams were done in psychiatric departments of the King Fahd University Hospital.

The general objective of CPE is to assess the clinical competence and performance of the students in such areas as communication skills, history taking, assessment of patient condition, clinical skills and professional attitude. Every two examiners are responsible for examining a group of 11 students using real patients. Students were randomly assigned in two different clinical areas of practice, namely: male and female wards of the King Fahd university hospital. Each Student was given one patient to communicate and assess in 30 minutes and then the examiners questioned the students on related topics as history taking, understanding the patient's condition, establishing priority nursing diagnosis, developed nursing care plan according to the patient's conditions for ten minutes using the common clinical performance checklist and the suitable rubric. The grade allocated for the clinical exam was assigned a numerical value on a scale 0 to 20. At the end of the exam, the students responded to the questionnaire related to their perception about the structure, organization and quality of the exam .

3) Data collection & Evaluation Phase

Data were collected using the two study tools . At the end of each exams, tools were distributed to be filled individually by each student, to express students opinions about each evaluation method. To compare the two assessment methods, the researchers compared the mean scores obtained by the students regarding the two methods of examination.

Ethical Considerations : Ethical Permission for the study was obtained from the Ethical Committee of the College of Nursing, University of Dammam. Permission to conduct the OSCE was obtained from the Vice Dean of academic affair of the College. Moreover informed consent was obtained from director of the King Fahd University Hospital to conduct the CPE. After taking informed consent of all participant students, their anonymity and confidentiality were ensured by not gathering personally identifiable data.

Statistical Analysis

Findings of the current study are presented in two main sections: The first one represents students' perception and the second one is concerned with students' academic achievements.

Data were analyzed using statistical package for social sciences (SPSS) version 16. Percentages were calculated for descriptive variables. χ^2 and t test & were used to compare the means with percentage of 95%. p value<0.05 was considered statistically significant.

3. RESULTS

Table (1): Frequency Distribution of Students' Perception of the Structure of the Evaluation Methods.

Items	CPE* (n = 88)						OSCE** (n = 88)					
	Strongly agree		Agree		Completely disagree		Strongly agree		Agree		Completely disagree	
	No	%	No	%	No	%	No	%	No	%	No	%
1. Assesses wide range of knowledge	64	72.73	14	15.91	10	11.36	77	87.50	10	11.36	1	1.14
2. Covers a wide range of clinical skills	67	76.14	15	17.05	6	6.82	73	82.95	14	15.91	1	1.14
3. Allows students to compensate in some areas	65	73.86	12	13.64	11	12.50	72	81.82	13	14.77	3	3.41
4. well-structured and sequenced	61	69.32	20	22.73	7	7.95	63	71.59	21	23.86	4	4.55
5. Highlights areas of weakness	67	76.14	11	12.50	10	11.36	67	76.14	12	13.64	9	10.23
6. Tasks reflects skills learned ,	64	72.73	12	13.64	12	13.64	65	73.86	17	19.32	6	6.82
7. Sequence of questions is logical and appropriate	66	75.00	11	12.50	11	12.50	67	76.14	11	12.50	10	11.36
8. Objective, reliable and valid	70	79.55	8	9.09	10	11.36	78	88.64	12	13.64	8	9.09
9. Relates theory to practice	74	84.09	10	11.36	4	4.55	76	86.36	10	11.36	2	2.27
10. Measures the course objectives	68	77.27	10	11.36	10	11.36	70	79.55	9	10.23	9	10.23

*CPE: Clinical Practical Evaluation.

**OSCE: Objective Structured Clinical Evaluation

Table (1) shows that 87.50% ,82.95% and 81.82% of studied students strongly agree that OSCE was covering a wide range of knowledge ,clinical competence , and allowed students to compensate in some areas. The figures for clinical practical exam(CPE) were 72.73%, 76.14% and 73.86 % respectively. Moreover 71.59% students (strongly felt that OSCE was well structured and sequenced, highlighted areas of weakness (76.14%),and that provided tasks reflected skills learned 73.86% . The sequence of questions was logical and appropriate as mentioned by 76.14% . Students perception in the same areas for CPE were 69.32%, 76.14%72.73%, 75.00% respectively. Moreover, students strongly agree that OSCE was objective, reliable and valid more than CPE (88.64%, 79.55% respectively). Finally 86.36% of students strongly agree that OSCE relates theory to practice and measures the course objectives 79.55%, where as for CPE 84.09%, 77.27% of students strongly agreed.

Table (2): Students' Perception Score Regarding the Structure of the two Evaluation Methods.

Total score	CPE *	OSCE **	t-test	P
Min. – Max.	25.0 – 48.0	31.0 – 50.0		
Mean \pm SD.	45.60 \pm 8.41	46.66 \pm 4.89	0.880	1.65
Median	46.0	48.0		

*CPE: Clinical Practical Evaluation.

**OSCE: Objective Structured Clinical Evaluation

***: Statistically significant at $p \leq 0.05$

This table shows the students perception scores regarding structure of OSCE and CPE .The table shows the mean perception scores for OSCE was higher than that for CPE (46.66 \pm 4.89, and 45.60 \pm 8.41respectively) However, these differences in students perception did not reach statistical significance $t = 0.880$, $p = 1.65$.

Table (3): Frequency Distribution of Students' Perception of the Instructions and Organization of the Evaluation Methods.

Items	CPE* (n = 88)						OSCE** (n = 88)					
	Strongly agree		Agree		Completely disagree		Strongly agree		Agree		Completely disagree	
	No	%	No	%	No	%	No	%	No	%	No	%
1. Well administered & organized	60	68.18	18	20.45	10	11.36	65	73.86	10	11.36	13	14.77
2. Setting and context felt authentic	65	73.86	10	11.36	13	14.77	70	79.55	8	9.09	10	11.36
3. less time consuming	60	68.18	10	11.36	18	20.45	65	73.86	10	11.36	13	14.77
4. Adequacy of time	61	69.32	18	20.45	10	11.36	32	36.36	8	9.09	48	54.55
5. Sufficient facilities	60	68.18	10	11.36	18	20.45	65	73.86	10	11.36	13	14.77
6. Suitable for students' number	65	73.86	10	11.36	13	14.77	70	79.55	10	11.36	8	9.09
7. Instructions were clear and unambiguous	50	56.82	10	11.36	28	31.82	73	82.95	9	10.23	6	6.82

*CPE: Clinical Practical Evaluation.

**OSCE: Objective Structured Clinical Evaluation

Table (3) shows that most students strongly agree that OSCE was well administered & organized (73.86 %), setting and context felt authentic (79.55 %), more than the clinical practical exam (68.18%, 73.86% respectively). Moreover, 65 (73.86%) students strongly agree that OSCE is less time consuming compares to 68.18% for CPE. Seventy students (79.55%) strongly agree that OSCE is suitable for students' number as compared to 65 students(73.86) for CPE .Sixty five students (73.86%) strongly felt that OSCE has sufficient facilities compared to 60 students (68.18%) for CPE . More than half of students disagree that time allocated for conducting OSCE as adequate compared to the time allocated for the clinical practical exam (54.55%, 11.36% respectively). Moreover students strongly considered instructions during OSCE as more clear and unambiguous than clinical practical exam (82.95%, 56.82% respectively).

Table (4): Comparison between Students' Perception Regarding the Instructions and Organization of the Evaluation Methods.

Total score	CPE *	OSCE **	t-test	P
Perception of exam structure and organization				
Min. – Max.	10.0 – 34.0	16.0 – 35.0		
Mean \pm SD.	29.45 \pm 4.90	30.53 \pm 4.56	0.791	1.653
Median	30.0	31.0		

*CPE: Clinical Practical Evaluation.

**OSCE: Objective Structured Clinical Evaluation

***: Statistically significant at $p \leq 0.05$

Table (4) reported a higher students' perception mean score of OSCE (30.53 \pm 4.56) when compared to CPE (29.45 \pm 4.90) however, the difference did not reach statistical significance ($t=0.791, p=1.653$)

Table (5): Frequency Distribution of Students' Perception of the Quality of Performance of the Evaluation Methods.

Items	CPE* (n = 88)						OSCE** (n = 88)					
	Strongly agree		Agree		Completely disagree		Strongly agree		Agree		Completely disagree	
	No	%	No	%	No	%	No	%	No	%	No	%
1. Helpful experience, being excited	62	70.45	16	18.18	10	11.36	70	79.55	18	20.45	0	0.00
2. Exam fairness	55	62.50	15	17.05	18	20.45	78	88.64	9	10.23	1	1.14
3. Exam is less threatening	65	73.86	14	15.91	9	10.23	76	86.36	6	6.82	6	6.82
4. less stressful than other exams	50	56.82	20	22.73	18	20.45	75	85.23	10	11.36	3	3.41
5. students Fully aware of the nature of the exam	55	62.50	25	28.41	8	9.09	76	86.36	10	11.36	2	2.27
6. Exam is less intimidating	53	60.23	20	22.73	15	17.05	80	90.91	8	9.09	0	0.00
7. demands more preparation	64	72.73	21	23.86	3	3.41	72	81.82	7	7.95	9	10.23
8. Personality and Social relation of students don't affect the scores	54	61.36	20	22.73	14	15.91	65	73.86	11	12.50	12	13.64
9. Tasks asked to perform were fair	58	65.91	7	7.95	23	26.14	75	85.23	10	11.36	3	3.41
10. Exam provided opportunities to learn	63	71.59	13	14.77	12	13.64	67	76.14	14	15.91	7	7.95
11. Exam minimized chance of failing	60	68.18	10	11.36	18	20.45	70	79.55	15	17.05	3	3.41
12. Students are less destabilizing during practical exams	54	61.36	9	10.23	25	28.41	77	87.50	11	12.50	0	0.00

*CPE: Clinical Practical Evaluation.

**OSCE: Objective Structured Clinical Evaluation

Table (5) Shows the perception of students regarding the quality of their performance during implementation of the two applied methods. It was noticed that OSCE strongly perceived in more positive way than clinical practical exam in term of quality of performance. Most students strongly agree that OSCE is helpful experience, being excited (79.55%), Exam fairness (88.64 %), Tasks asked to perform were fair (85.23%), less threatening (86.36%), less stressful (85.23%), less

intimidating (90.91%), as compared to CPE. Moreover 81.82 % of studied students strongly agree that OSCE demands more preparation compared to 72.73% for CPE. It is reported by 73.86% of studied students that personality and social relations of students did not affect their achieved scores . Students perceive that OSCE provides opportunities to learn(76.14%), minimizes chance of failing(79.55%) and 87.50% of students mentioned that OSCE is less destabilizing practical exam.

Table (6): Comparison between Students' Perception Regarding the Quality of Performance of the Evaluation Methods.

Total score	CPE *	OSCE **	t-test	P
Min. – Max.	31.0 – 57.0	34.0 – 60.0	2.891	0.0021 ***
Mean \pm SD.	53.13 \pm 9.32	56.47 \pm 5.20		
Median	50.0	51.0		

*CPE: Clinical Practical Evaluation.

**OSCE: Objective Structured Clinical Evaluation

***: Statistically significant at $p \leq 0.05$

This table reflects students perception regarding the quality of performance of the evaluation method, it appears that OSCE reporting a higher mean score (53.13 \pm 9.32) as compared to CPE mean score (56.47 \pm 5.20), these differences reach statistically significant ($t=2.891$ *** 0.0021) .

Table (7): Students' Perceptions Regarding Their Overall Satisfaction with the Two Evaluation Methods.

Items	CPE * (n = 88)		OSCE ** (n = 88)		χ^2 Chi square test	P
	No.	%	No.	%		
Overall Satisfaction?					2.38	0.01***
▪ Satisfy	61	69.3	73	82.9		
▪ Not Satisfy	27	30.7	15	17.1		
Recommend the exam as part of curriculum?					2.522	0.013***
▪ Recommend	44	50.6	71	80.7		
▪ Not recommend	43	49.4	17	19.3		
How would you rate the clinical practical exam session?					1.023	0.278
▪ Very good	5	5.7	5	5.7		
▪ Good	38	43.7	50	56.8		
▪ Fair	32	36.8	24	27.3		
▪ Poor	12	13.8	9	10.2		

*CPE: Clinical Practical Evaluation.

**OSCE: Objective Structured Clinical Evaluation

***: Statistically significant at $p \leq 0.05$

Table (7) presents student overall satisfaction from the two evaluation methods. It appears that 82.9% of students are satisfied with the OSCE in contrast to 69.3% with the clinical practical exam (CPE). A statistical significant were found as $\chi^2=2.38, p= 0.01***$. It is also noticed that OSCE exam is more recommended as part of curriculum than clinical practical exam with statistically significant differences ($\chi^2 =2.522, p= 0.013$). Moreover 62.5% of students rated the OECE as either good or very good ,while 49.4% of students rated the clinical practical exam as good or very good.

Table (8): Students' Achievement Mean Scores According to Objective Structural Assessments OSCE and CPE.

Type of Exam	Mean +SD		Range of score	P
Final score of CPE Exam*	14.74	1.28	8-20	0.001 ^{***}
Final score of OSCE Exam**	16.90	0.85	16-20	

*CPE: Clinical Practical Evaluation.

**OSCE: Objective Structured Clinical Evaluation

***: Statistically significant at $p \leq 0.05$

Table (8) Present Students' achievement Mean Scores according to the OSCE and CPE Exam. It was noticed that students final mean scores in OSCE were higher than their final score in clinical practical exam (16.90 ± 0.85 , 14.74 ± 1.28 respectively) , these differences reach statistical significance ($p= 0.001$)

IV. DISCUSSION

Decisions regarding the most effective evaluation method is an important component of nursing education. Professional educators should make informed decisions regarding the best method of evaluation in term of different variables including, students' perception, satisfaction, and achievement. They should ensure the objectivity , reliability and validity of the selected evaluation tool. Despite the benefits of OSCE reported in the literature about the appropriateness of this tool for evaluating clinical abilities of nursing students, few studies comparing the effectiveness of OSCE versus clinical practical evaluation (CPE) are available specially in the field of psychiatric and mental health nursing. (16).

Comparing OSCE and CPE, The present study did not show statistical significant difference between the two used evaluation methods in term of exam structures. Previous results indicate that students perceived both OSCE and CPE as well-structured method of evaluation .The results also show that most students considered OSCE to be objective, reliable and valid test were more than those considering CPE . The rational for this may be that during OSCE every student is assessed on the same standardized patient and all questions are the same for all students in the same station and scored according to the checklist provided which was designed to eliminate bias. In CPE, students are examined on a real patients and the questions vary and may be affected by patient's personality and condition. This is congruent with the feedback from nursing students which showed that OSCE is an objective tool for evaluating clinical skills and its format was perceived to be fair and objective more than the conventional examination. The feedback of students further view OSCE scores as a true measure for the essential clinical skills being evaluated, and notaffected by either students' personality or social relation. A similar result was found by Jawaid (2014) who attempted to determine the surgical student's perception of objectivity and validity of OSCE in Dow University of Health Sciences. His results show that OSCE was considered a fair examination method by most of his students. Moreover studied students highlighted OSCE as a tool that is more reliable and valid in measuring their clinical competencies than their final score in clinical practical exam sessions (15,16).

In the present study the majority of students perceived OSCE as capable of assessing wider range of learned material more than CPE. This could be related to the fact that in OSCE students perform different objectives within a specific time whereas in CPE a student may not perform the same task within the same time. The OSCE is carefully structured to include parts from all elements of the curriculum as well as a wide range of skills. This result supports the finding of a study where it was reported that majority of students respondents felt that OSCE provided optimum coverage of the course. This finding is further supported by Ameh, et al (2014) who reported in his study , that students perform more than three procedures within a given hour whereas in CPE a student may not perform more than two procedures within the same time. In OSCE each performance is timed and this prevent student from over lingering on one procedure as obtained in traditional clinical practical exam. The students felt the OSCE covers a wider range of topics than the CPE and allows them to make up for any areas they may have performed poorly. (16, 17, 18)

Although the present study did not show any statistical significant difference regarding the organization and instructions of the two used evaluation methods, the results indicated that nearly half of the students considered the organization of the

OSCE as well done; in a well administered setting , its context authentic, with sufficient human resources and sitting places, and suitable for students' numbers. These results are consistent with those of Troncon (2004) who mentioned that his students were satisfied with the organizational aspects of OSCE ⁽¹²⁾. On the other hand , these are contrary to a study who found that the OSCE is more difficult to organize, more expensive to conduct and require more materials and human resources ⁽²⁰⁾. In fact the resource implications are significant in terms of, staffing, rooms, all examiners required training and descriptions of what constitutes a pass and fail grade for each of the stations that need to be developed. In another study, insufficient facilities, large number of students, short time of the exam, lack of commitment from the staff with the exam time, insufficient sitting places making students stand long time in OSCE lab, and deficient capacity of the staff were reported by clinical educators and nursing students as barriers in conducting OSCE ⁽²¹⁾.

Moreover the results of the preset study indicated that most of the students considered instructions during OSCE more clear and unambiguous than those of CPE. This is consistent with other research studies results which reported that most students provided positive feedback about the clarity of the instructions of the OSCE , the sequence of OSCE stations, and the reflection of the tasks taught ⁽²²⁻²⁴⁾.

The present findings showed that students perceived time allocated for each station during OSCE as inadequate compared to the time allocated for the clinical practical exam . This is congruent with results obtained by Bayomi and Yousri (2012) who reported that students wanted the exam time to be increased . This was also supported by Troncon (2004) who found that students had difficulties to manage time during OSCE. This may be related to various factors such as immaturity and lack of specific training in time management techniques. Moreover Awaisu et.al (2014) reported dissatisfaction with assigned time per station and explained that it was difficult to allocate different time limits at different stations during OSCE. ^(19,25,26)

The present study also revealed that students perceived OSCE as less time consuming than CPE. The findings of Supriya et.al (2013) are supportive of these results. On the contrary EL-Nemer et.al, (2009) reported that the implementation of OSCE is more time consuming than other clinical exam . ^(27,28)

The present study showed that students perceive the quality of their performance in OSCE in a much more positive way than in the CPE. OSCE was viewed as helpful and more exciting experience. Moreover OSCE provides students with awareness of the nature of the exam, allowing them to compensate in some areas, provide them with opportunities to learn, and minimize chance of failing . These differences reach statistical significance. These findings are consistent with Bayoumy et.al (2012), who indicated that nursing students perceived OSCE as a favorable experience that should be repeated regularly. In another study most students viewed OSCE as, useful comprehensive practical experience, fair, giving students better opportunities to learn and to compensate in some areas ^(10,25).

The Results of the actual study also revealed that most of the students strongly agreed that OSCEs were a fair experience. This may be related to the use of unified scenarios, well trained standardized patient and standardized evaluating checklists. This is contrary to the study of Alkhatlan et.al. (2018) who investigated the perceptions of the students about the effectiveness of OSCE at King Saud bin Abdulaziz University for Health Sciences on male and female medical students. The authors showed that only one third of students agreed that OSCE scores provide a true measure of essential clinical skills. Moreover, around half of the students thought that personality and social relation will affect OSCE scores. Mitchell et al. (2009) added that for better usage of OSCE, as a method for assessing clinical skills of nursing students, it is essential that this method is used besides other methods of assessment so that more accurate and favorable results will be found for judgment. ⁽²⁹⁻³⁰⁾

Regarding students` perception about stress level during the examination in the present study, the students perceived OSCE to be less stressful, less intimidating and less threatening than CPE. This line of thinking by the student respondents may be related to the students perception of the fairness and lack of threat of OSCE . Moreover students in this exam are more aware of its nature and the level of information needed .These findings are congruent with those of Smith et.al,(2012) who reported students` disagreement that OSCE is a stressful examination. However, the present findings are contradicting those of Brosnan et.al.(2006) who mentioned that more than half of their students agreed that

the OSCE was more stressful than another formal examination. Stressful experience with OSCE was interpreted in other studies as related to the novelty of the experience, hence it would be recommended to use the OSCE in the midterm exam as a preparation stage for students before the final OSCE. (31,32)

In addition, Findings of the actual study revealed that students perceived OSCE to be less destabilizing than traditional clinical evaluation. This may be because there is less interference from the examiners during OSCE as they only observe what students are doing and are not obliged to correct any noticeable mistake. In traditional clinical practical evaluation sessions however, examiners in some instances are forced to correct the students' mistakes to avoid possible harm to the patients which may affect negatively the students. The examiner too may experience anxiety for the fact that the patient safety may be affected. In OSCE, standardized simulated patients were used instead of real patients hence no fear of harming the patient is experienced either by students or examiners. This finding is corresponding with that of Omari, (2010) who reported that there is an inverse relationship between anxiety and performance of procedure in OSCE. (33)

The study also revealed that the majority of studied students perceived OSCE as demanding more preparation than CPE, and that preparing for OSCEs is very different from preparing for clinical examination or written theory. It is essential to learn correct clinical procedure and then practice it repeatedly until get a feel of becoming perfect to complete the required tasks to the specific allocated time and working under pressure. This finding is contrary to Wikipedia, (2010) which stated that OSCEs demand less preparation than traditional clinical exams. The study is also consistent with a researcher who reported that OSCE demand more preparation for students as they will have to read in-between lines, role play some of the procedures to ensure that they are able to keep to time (34,35).

Students' satisfaction regarding the two used methods and obtained scores for achievement

Results of the present study showed that students were more satisfied with the OSCE than the clinical practical exam. They would recommend OSCE exam more than clinical practical exam. Similar results were reported by many authors (36,37,38). Along the same line Eldarir et.al (2013) reported the highest rate of satisfaction with OSCE methods of evaluation and stated that it may be related to the fact that OSCE measures course objectives, enhances teaching level, relates theory to practice, increases decision making ability, enhances methods of evaluation, and well developed exam. In contrasted Rasoulia et.al., (2007) attributed students dissatisfaction with OSCE to the artificiality of the setting and use of simulated patients (36). Huang et al., (2007) added that the students who got higher scores in OSCE assessment method had more self-confidence for doing clinical practice exam (39).

Lastly the present study revealed that student's final scores obtained from OSCE were significantly higher than those obtained from CPE. This could be a reflection of the highly structured nature of OSCE and its scoring method which was designed to eliminate any form of bias by its objective nature. Moreover being a new method of practical examination training for students was scheduled and implemented prior to the actual exam time. In this respect Idowu et.al, (2016) compared the effectiveness of OSCE versus traditional clinical practical evaluation on student's achievement and found that there was a high statistical significant difference between OSCE and traditional methods final scores (35). The same was reported by Idris et.al (2014) who found that 67.7% of students examined by OSCE received grade B and above, whereas 60.5% of students in classical clinical practical examinations obtained grade C+ and below. This finding is also consistent with Smith et al., (2012) who compared different methods of assessing midwifery students' clinical skills. The results indicated that none of the assessment methods of clinical skills can provide complete information about the students' skills but OSCE method can be used as a very valuable method for assessing clinical competency of students because of appropriate reliability. (13,31)

Moreover these findings are contrary to the findings of Supriya et.al,(2013) who reported that OSCE and traditional practical exam are in agreement as the analysis of scores obtained from both practical examination shows that 96% of students' scores lay within the limits of the mean of ± 1.96 SD. Moreover the findings of a study by Om Lata et.al., (2014) reported that the average scores obtained by the students in the two methods of practical examinations were nearly equal (27,40).

V. CONCLUSION:

It can be concluded that OSCE method of practical examination was perceived more positively by nursing students' than CPE. It is believed to be more objective, fair, reliable and valid method for evaluating clinical performance of nursing students. Students clinical achievement scores were higher after OSCE exam than other practical examination.

VI. RECOMMENDATIONS

based on the findings of this research, the followings are recommended:

It is recommended that OSCE should be adopted as an effective method of practical examination for nursing training programs

- OSCE may be adopted as method of practical examination for nursing training programs.
- Nurse educators, who prepare students for professional practice, can adopt the OSCE for the psychiatric mental health nursing practical examination. This will help in eliminating bias and subjectivity that is common in the current method of practical examination.
- College of nursing needs to be equipped with necessary OSCE lab so as to enhance the valuable assessment opportunities in the clinical education component of psychiatric mental health nursing.
- There is a need to create competency-based curriculum for nursing education with OSCE process being inculcated into nursing program curriculums.
- OSCEs should be integrated within a curriculum in combination with other relevant student evaluation methods.

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