

**Evaluating Objective Structured Clinical Examination (OSCE) Among Nursing Students at Faculty of Nursing, Omdurman Islamic University 2023.**

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**Abstract**

*Background:* - The Objective Structured Clinical Exam (OSCE) is a comprehensive, structured and consistent approach for assessing aspects of the student's clinical competence with maintenance of high objectivity. Aim of the study: to assess student evaluation of an OSCE nursing clinical course at Faculty of Nursing science, Omdurman Islamic university.

*Materials and methods:* - Study Design institute based cross sectional survey

*Study setting:* The study was conducted in Faculty of Nursing science Omdurman Islamic university Sample: A (300) nursing students who completed their clinical nursing OSCE examination.

Tool of data collection: a self-administered questionnaire sheet was used including the following parts: - Part 1: socio-demographic characteristic of the students. Part (2) Consist of evaluation the OSCE features, it comprises of 13 items to know if OSCE exam was fair clearness, Wide knowledge area covered, exams well administered and numbers of stations, this divided to response of agree, neutral and disagree Section three: the assessment of the quality of OSCE performance, it covers 8 items related to the students' recognition of fully aware of nature of exam, time at each station, if Instructions were clear and unambiguous. This covered by response in to great extent, neutral and to some extend

Section four: assessing the OSCE marks and objectivity, it consists of 4 items to measure students' perception of validity and reliability of OSCE if scores of it provide true measure of essential clinical skills, standardized

Section five: assessment nursing students to rating formats of osce exam, consists of four questions subdivided to types of exam as general by MCQ. Essay. OSCE .Clerkship ratings their response differ for each subtitle. For question related to easiest, the response divided into difficult, undecided, easy, and for question whether the formats is fairest these their response divided into unfair, Undecided, Fair.

*Results:* - OSCE was considered as a fair examination method by 178(59.3%) of students. One thirds 110(36.7%) of the studied students reported that, OSCE is less stressful than other exams, while half of them had neutral response.

*Conclusion:* the findings highlight that OSCE is a meaningful and fair form of assessment tool for clinical skills in nursing and that it has had a positive effect on nursing curriculum.

*Recommendation:* the present study recommended that, OSCE should be applied in all nursing clinical examination and must be used as an integral part of the clinical evaluation system/students' assessment at the under graduate.

**Keywords:** Objective Structured Clinical Examination, Nursing Students at Faculty of Nursing. Omdurman Islamic 2023

### **Introduction:**

Clinical nursing education is a heart of the nurse's professing and clinical skills that required to give patient-centered care. For graduation there are a nursing curriculums that influenced by nursing requirements, the university and the faculty. Each university has courses such as islamic studies and english. Faculty requirements may include courses such as, chemistry, biology, nutrition, physics, and pharmacology. Nursing requirements include all essential courses to

prepare students for the nursing profession and licensure which having a theoretical and clinical parts.

(Al Mutair, 2015)

Evidence shows that most of the newly graduated nurses have sufficient theoretical knowledge but they are not clinically proficient. According to the importance of clinical competency, the way of evaluation strategies should be assumed to determine the success rate of the clinical training, assess learning processes and the quality of teaching(Siddiqui AU.2011)

Now a day, the introduction of assessment methods that simulate practical clinical situations has provided a solution of low reliability and difficult standardization one of these evaluation is the Objective Structured Clinical Examination (OSCE) that has been used in nursing education and other health care professions is defined as "the method of choice for evaluation of learner's clinical competences"(Al Saegh Maha AM.2015), which is Clinical evaluation in nursing education is serious for students and teachers; it improves their knowledge and skills, therefore, developing the professional practices of both. It is one form of objective evaluation method that is gaining more acceptances and is being adopted by educators of various disciplines (Hatamleh W, Abu Sabeeb.(2014)

It is an essential requirement of health professional education. Since its development in the 1970s, the Objective Structured Clinical Examination (OSCE) has gained acceptance as a benchmark for clinical skills assessment, there has been an evolution of various methods of clinical evaluation in undergraduate nursing education in the last four decades. The OSCE includes performing a skill through a simulated clinical case in a controlled environment instead of using true patients in the practice setting (Patrício, Julião, Fareleira, & Carneiro, 2013). The OSCE is an approach for student assessment in which aspects of clinical competencies are evaluated in a comprehensive, consistent and structured manner with close attention to the objectivity of the process. Hosseini et al., 2011).

**Aim of the study:**

The present study was carried out at faculty of nursing science among Student to Evaluation of an OSCE in Nursing students who were completed their practical osce exam and Clinical Course at Omdurman Islamic 2022

**Research question**

What are the nursing student’s feedback regarding OSCE as an evaluating method quality of OSCE and objectivity and their assessment?

What are their feedback regarding OSCE preparation and quality of OSCE performance?

**Research design**

A descriptive analytical design was used for this study.

Study area:

Study carried

**Study area and setting:**

The study was carried out at, Omdurman Islamic University. Faculty of nursing science

**Sampling and sampling technique**

Systematic random sampling of od ration among of 550 undergraduate nursing students who completed their medical nursing course during the academic year 2022/2023.of total number of nursing students who registered for studying and completed the practical training and knew the method of OSCE exam on academic years..

**Data collection tool**

A self-administered questionnaire was used to collect the data on google form; Pierre et al. (20014) OSCE evaluation questionnaire was used in this study.

**Section one:** consists of age. Educational level and marital status

**Section two:** Consist of evaluation the OSCE features, it comprises of 13 items to know if OSCE exam is exam was fair clearness, Wide knowledge area covered , exams well administered and numbers of stations, this divided to response of agree, neutral and disagree

**Section three:** the assessment of the quality of OSCE performance, it covers 8 items related to the students' recognition of fully aware of nature of exam, time at each station, if Instructions were clear and unambiguous. This covered by response in to great extent, neutral and to some extend

**Section four:** assessing the OSCE marks and objectivity, it consists of 4 items to measure students' perception of validity and reliability of OSCE if scores of it provide true measure of essential clinical skills, standardized

**Section five:** assessment nursing students to rating formats of osce exam, consists of four questions subdivided to types of exam as general by MCQ. Essay. OSCE .Clerkship ratings their response differ for each subtitle. For question related to easiest, the response divided into difficult, undecided, easy, and for question whether the formats is fairest these their response divided into unfair ,Undecided ,Fair. The rest of division found in table.

**Statistical analysis**

Data were coded, analyzed SPSS windows version 15. Quantitative data were explicit as frequency and percentage.

**Ethical considerations:**

The researcher respects the rights of participants. Verbal consent was taken from participants, after an explanation of the purpose and justification of the study in clear and simple words.

- The participant's name was not necessary; instead, a serial number was utilized.
- Participation in full autonomy was entirely voluntary. The person could choose to withdraw at any moment and could accept or refuse.

- The Data was kept private and secure for a period of three years before being deleted

**Results:**

OSCE has emerged as a pivotal assessment tool in nursing education, particularly for evaluating clinical competencies among students. In this study all participants were female their age between 19-22 years which represent 103(34.3%) and those whose age more than 22 were 197(65.7%), 107(35.7%) in class four and 109(36.3%) in class four while the rest in class two, more than half are single (192(64%) as prescribed in **table (1)**

**In table (2):** represents nursing students' evaluation of the OSCE attributes. The table revealed that most of the students 178(59.3%) agreed that OSCE was fair and nearly two thirds of them 193(64.3%) reported that OSCE minimized chance of failing, while 250(83.3%) reported that osce exam allowed student to compensate in some areas and 168(56%) reported that osce exam needed more time at stations, in same table students reported aware of level of information needed 227(75.7%), and 231(77%) reported osce exam highlighted areas of weakness

40(13.3%) of the studied students reported that OSCE less stressful than other exams

**In table (3):** In relation to nursing students' evaluation of the quality of OSCE performance showed that most of the studied nursing students 256(85.3%) fully aware of nature of exam and 253(84.3%) tasks reflected those taught and also 242(80%) reported exam provided opportunities to learn. On the other hand, more than one third of the studied nursing students were neutral about 128(42.7%) Setting and context at each station felt authentic.

**Table (4):** represents nursing students' perception of OSCE marks and objectivity and objectivity. The table revealed that more than half 266(88.7%) of studied nursing students reported that OSCE scores were most affected by students personality while 250(83.3%) reported that OSCE practical and useful experience, and 217(72.2%) reported that OSCE scores are standardized

**Table (5):** represents Student rating of assessment formats. Students were asked to rate the following assessment instruments to which they had been exposed (multiple choice questions, essays / short answer questions, general clerkship ratings, OSCE). A Likert scale was used to assess each according to the evaluative labels (**Table5**). The table revealed that more than one third 163 (54.3%) of students felt that MCQ was the easiest, while 80(26.7%) as a more difficult form of assessment. While 47(15.7%) reported that OSCE were easy fairest assessment format

Table (1) sociodemographic characteristics (n=300)

variable	Frequency	Percent (%)	mean	SD
<b>age</b>				
19-22	103	34.3	1.6567	.47561
More than 22	197	65.7		
<b>Educational level</b>				
Second class	84	28.0	2.0767	.79555
Third class	109	36.3		
Fourth class	107	35.7		
<b>Marital status</b>				
SINGLE	192	64.0	1.4067	.57943
married	94	31.3		
divorced	14	4.7		

Table (2): Evaluation of OSCE medical nursing attributes by under graduate nursing students in Omdurman Islamic university (N=300).

statement	Agree N (%)	Neutral N (%)	Disagree N (%)	Mean	± SD
Exam was fair	178(59.3%)	76(25.3%)	46(15.3%)	1.5600	.74493
Wide knowledge area covered	188 (62.7%)	62(20.7%)	50(16.7%)	1.5400	.76399
Needed more time at stations	168(56%)	79(26.3%)	53(17.7%)	1.6167	.76922
Exams well administered	176(58.7%)	76(25.3%)	48(16%)	1.5733	.75267
Exams very stressful	40(13.3%)	150(50%)	110(36.7%)	2.2333	.66861
Exams well structured & sequenced	177(59%)	82(27.3%)	41(13.7%)	1.5467	.72312
Exam minimized chance of failing	193(64.3%)	64(21.3%)	43(14.3%)	1.5000	.73380
OSCE less stressful than other exams	119(39.7%)	86(28.7%)	95(32.7%)	1.9200	.84220
Allowed student to compensate in some areas	250(83.3%)	30(10%)	20(6.7%)	1.2333	.55970
Highlighted areas of weakness	231(77%)	49(16.3%)	20(6.7%)	1.2967	.58578
Exam intimidating	222(74%)	38(12.7%)	40(13.3%)	1.3933	.71202
Student aware of level of information needed	227(75.7%)	44(14.7%)	29(9.7%)	1.3400	.64740
Wide range of clinical skills covered	260(86.7%)	24(8%)	16(5.3%)	1.1867	.50927
Total mean score	1.54±0.33				

Table 2: Nursing students' evaluation of the quality of OSCE performance. (N=300)

Items	To great extent N (%)	Neutral N (%)	Some extend (%)	Mean	± SD
Fully aware of nature of exam	256(85.3%)	44(14.3%)	0	1.1467	.35436
Tasks reflected those taught	253(84.3%)	39(13%)	8(2.7%)	1.1833	.45137
Time at each station was adequate	256(85.3%)	40(13.3%)	4(1.3%)	1.1600	.40200
Setting and context at each station felt authentic	73(24.3%)	128(42.7%)	99(33%)	2.0867	.75347
Instructions were clear and unambiguous	275(91.7%)	19(6.3%)	6(2%)	1.1033	.36483
Tasks asked to perform were fair	157(52.3%)	97(32.3%)	46(15.3%)	1.6300	.73592
Sequence of stations logical and appropriate	192(64%)	90(30%)	18(6%)	1.4200	.60400
Exam provided opportunities to learn	242(80%)	46(15.3%)	12(4%)	1.2333	.50966
<b>Total mean score</b>	1.22±0.403				

Table (3): Perception of the OSCE marks and objectivity (N=300)

Items	To great extent N (%)	Neutral N (%)	Not at all N (%)	Mean	± SD
OSCE exam scores provide true measure of essential clinical skills	195(65%)	53(17.7%)	52(17.3%)	1.5233	.77338
OSCE scores are standardized	217(72.2%)	59(19.7%)	24(8%)	1.3567	.62511
OSCE practical and useful experience	250(83.3%)	38(12.7%)	12(4%)	1.2067	.49474
Personality, gender and ethnicity will not affect OSCE scores	266(88.7%)	30(10%)	4(1.3%)	1.1267	.37114
<b>Total mean score</b>	56.85 ± 5.17				

Table (4) Student rating of assessment formats. (n300)

<b>Question:</b>	<b>Difficult</b>		<b>Undecided</b>		<b>Easy</b>		<b>mean</b>	<b>± SD</b>
<b>Which of the following formats is easiest?</b>	N	%	N	%	N	%		
MCQ	80	26.7%	57	19%	163	54.3	2.2767	.85785
Essay	137	45.7%	22	7.3%	141	47.7%	2.0133	.96415
OSCE	90	30%	99	33%	47	15.7	2.0233	.81137
Clerkship ratings	115	38.3%	69	23%	66	22%	1.9433	.87331
<b>Question:</b>	<b>Unfair</b>		<b>Undecided</b>		<b>Fair</b>			
<b>Which of the following formats is fairest?</b>	N	%	N	%	N	%		
MCQ	106	35.3%	31	10.3%	163	54.3%	2.1900	.92922
Essay	87	29%	67	22.31%	146	48.7%	2.1967	.86050
OSCE	65	21.7%	54	18%	181	60.3%	2.3867	.82020
Clerkship ratings	230	76.7%	35	11.7%	35	11.7%	1.3500	.67998
<b>Question:</b>	<b>Learn very little</b>		<b>Undecided</b>		<b>Learn a lot</b>			
<b>From which of the following formats do you learn most?</b>	N	%	N	%	N	%		
MCQ	236	78.7%	36	12%	28	9.3%	1.6767	.84528
Essay	236	78.7%	28	9.3%	36	12%	1.3067	.63295
OSCE	81	27%	6	2%	213	71	2.4400	.88827
Clerkship ratings	30	10%	15	5%	255	85%	2.7500	.62354
<b>Question:</b>	<b>Used much less</b>		<b>Undecided</b>		<b>Used much more</b>			
<b>Which of the following formats should be used more often in the clinical years of the programme?</b>	N	%	N	%	N	%		
MCQ	121	40%	59	(19.7%	120	40%	1.9967	.89778
Essay	101	33.7%	18	6%	181	60.3%	2.2667	.93370
OSCE	41	13.7%	39	13%	220	73.3%	2.5967	.71813
Clerkship ratings	67	22.3%	56	18.7%	177	59%	2.3667	.82532

**Discussion:**

The development and assessment of clinical competence in nursing education is critical for preparing students to deliver safe, effective, and compassionate patient care. One widely adopted method for evaluating nursing students' skills is the Objective Structured Clinical Examination (OSCE). In this study researcher aimed to evaluate the clinical performance in a controlled, standardized environment, simulating real-world scenarios to measure a diverse range of competencies, including technical, cognitive, and affective skills. 300 nursing students enrolled in the study most of them their age most than 22 years 197(65.7%), this insignificant with study

done in Nigeria where there participants clarified that less than half (44%) of the Nigerian students aged 26 years old and two third of them (66%) were female; currently single (56%). (Mary Idowu Edward. et al (2016)

Students' feedback is considered a good indicator about the efficiency of the assessment tool and useful in improvements. The feedback received supports the applicability of this method in assessing the performance of nursing students, the findings of the current study indicated that the student's feedback about the attributes of OSCE and quality was positive. These findings were in agreement with other researches' finding with Eswi et al., 2013, which covered a wide range of knowledge, allowed them to compensate in some areas, well structured and well administered. In this respect Mitchell et al., (2009)

Also our study findings pointed out that, most of nursing students accepted objective structured clinical examination as a tool for evaluation of their clinical performance in terms of fairness of the exam, covered a wide range of clinical skills and knowledge, well administered, structured, and sequenced. Also, ultimate number of nursing students viewed OSCE as an evaluation tool that minimizes the chance of failing, helps students to compensate in some areas to improve their grades, and can identify their areas of weakness .This positive view may be explained by the fact that OSCE was used in students' evaluation since several years and they are aware with the nature of the exam. These findings are confirmed by the quantitative marks of the students, as more than half of studied student had excellent level of performance in osce exam , these results are consistent with a study conducted in Egypt (2012) by Bayoumy and Yousri,2012).On the other hand, study results reported that, there high considerable high percentage of nursing students complained from insufficient time at OSCE stations this contracting with study tdone in Sohag, there are considerable high percentage of nursing students complained from insufficient time at OSCE stations(Ali G, Mehdi A.et al (2012)

Our results were similar with Eswietal., 2013, who found that about more than third of the studied subjects reported that MCQ are the easiest formats, while only more than one third of them reported that OSCE is the easiest. More than half of the them reported that OSCE is the fairest compared to more than one quarter of the students indicated that MCQ is the fairest. While More than one third of the students reported that OSCE formats is that they learned most versus one quarter of them who considered MCQ and essay are the formats they learned most. Three quarters of the students reported that OSCE formats should be used more in clinical examination. Also Pierre etal., 2004 reported that students perceived the OSCE to be fairer than any other assessment format to which they were exposed which is significant to our participants group who reported that (Pierre R B, et al(2014).The findings reported by Pierre etal., 2014 were supported also by Eldarir and Abd el Hamid 2013,who found that students mentioned that OSCE was a meaningful and the fairest method of assessing clinical skills

### **Conclusion:**

In summary, the findings highlight that OSCE is a meaningful and fair form of assessment tool for clinical skills in nursing and that it has had a positive effect on nursing curriculum. It could

assess a wide range of learned material and covered a wide range of knowledge. The conduct of OSCE is congruent to the findings of most of the studies done on conducting OSCE with nursing students.

**Recommendation:**

Based on findings of the current study, it is recommended that:

OSCE must be used as an integral part of the clinical evaluation system/students' assessment at the under graduate, should be used as a method of evaluating clinical practice in a combination with traditional method. And should be applied in all nursing clinical examination. And Ensuring clear instructions and have revision related to all competencies and training for OSCE just before the examination

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