

**The Egyptian Nursing Student's Perceptive view about an Objective Structured Clinical Examination (OSCE)****Ghadah A. Mahmoud<sup>1\*</sup> and Manal F. Mostafa<sup>2</sup>**<sup>1</sup> Obstetrics and Gynecological Nursing Dept., Faculty of Nursing, Assiut University, Egypt.<sup>2</sup> Obstetrics and Gynecological Nursing Dept., Faculty of Nursing, Assiut University, Egypt.\*[Ghadah\\_omar2008@yahoo.com](mailto:Ghadah_omar2008@yahoo.com)

**Abstract:** The aim of this study was to assess the third year nursing student's perception about an OSCE in Obstetrics and Gynecological Nursing. A descriptive design was utilized for collecting the data that are necessary to answer the research question. The sample consisted of 100 students who finished the 3<sup>rd</sup> year clinical teaching course of Obstetrics and Gynecological Nursing and were evaluated by an OSCE. The results of this study explored that more than one third of the students considered the announcement of the date and the place of examination were very good (39% and 38%, respectively). As regards the format of OSCE, the study identified that 41% of the students considered the revision done before examination was excellent. The majority of the students considered the quality of examination was excellent. Concerning the difficulties in time management during OSCE, more than half of the students (55%) were agreed. As regards the presence of emotional stress, more than two thirds of the students (77%) were agreed. In the light of the present study findings, it can be concluded that there is more need for careful preparation and organization of OSCE. The majority of the students appreciate the format of OSCE. The study has also highlighted that there are more need for training the students on time management and relieving their emotional stress during implementation of OSCE. It is essential to consider the recommended use of OSCE prescribed within wider context in nursing curriculum evaluation models. A larger study is needed to establish the effectiveness of OSCE within nursing education programs. An exploration of how successfully students transfer into clinical practice and to explore the validity and reliability of OSCE.

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**Key words:** OSCE, Validity, Reliability, Competence, ILOs

**1. Introduction:**

Without Doubt, clinical practice is one of the crucial components in nursing education, and it can be stressful for students. They may face many challenges or threats in dynamic and complex clinical environments, such as how to use high-tech medical equipment, how to maintain good relationships with clinical staff and instructors, how to manage sudden changes in a patient's condition, and how to deal with the demands of patients' relatives [1].

There is a widespread agreement that clinical learning has a central importance in nursing education. Although a theoretical and research-based education is vital for contemporary nursing on its own, it is not enough. Effective clinical placements are essential to becoming a competent professional nurse. Learning in the clinical environment provides the real world context for nursing students to develop the knowledge, skills, attitudes and values of a registered nurse [2].

Assessment of student nurses' clinical competence has been an integral part of the overall assessment strategy since formal nursing assessment began [3].

Enabling practical skills development is a key dimension of nurse education. This challenges nurse

educators to ensure that the integration of theory and practice occurs within both the practice and academic settings. Objective structured clinical skills evaluation (OSCE) is one of the approaches that have been used to meet these challenges. This approach has not been widely utilized in nurse education [4].

The OSCE emerged as an assessment strategy for medical education in Scotland during the 1970s. It is an assessment approach to students' clinical skills that is objective rather than subjective. The clinical competence is divided into various components such as history taking, or the interpretation of clinical data (such as nursing diagnosis) with each component being assessed at a different station [5].

The objective structured clinical examination (OSCE) has been in use in the assessment of medical students for over 20 years. In the last 10 years there has been increasing interest in this form of assessment in other health professional disciplines, such as nursing and physiotherapy [3].

Objective measurement of clinical competency has been a challenge for nursing educators and other professionals. The Objective Structured Clinical Examination (OSCE), first described in 1975, has been in used extensively in medical schools and residency programs in the United States. It is a valid

and reliable method of assessing clinical competence objectively in a variety of settings [6].

An OSCE requires each student to demonstrate specific skills and behaviors in a simulated work environment with standardized patients. It typically consists of a circuit or series of short assessment tasks (stations), each of which is assessed by examiner using a predetermined objective marking scheme [7, 8, 9].

In Australia, Bujack and Little, [10], documented the usefulness of OSCE in the nursing curriculum as enabling students to, "Integrate a range of knowledge and skills and to demonstrate the use of these in planning, implementing and evaluating care given in response to a single patient encounter" [8].

The advanced nursing Objective Structured Clinical Examination (OSCE) is a structured assessment of specific clearly defined clinical skills. In this examination, the students complete a set of individual OSCE stations (individual OSCEs are normally called stations) that are designed to test a range of clinical skills used in patient consultations, with an examiner using a previously determined, objective scoring scheme [11].

During an OSCE the clinical competence to be tested is broken down into its various components. For example, the acquisition of clinical data (history taking, physical assessment), the interpretation of clinical data (problem identification, nurse diagnosis), or the use of clinical data (decision making) supportive, educative, or therapeutic interventions [3].

The OSCE provided a learning opportunity for the nursing students, lecturers, and the institution. First the students stated that the experience of doing the OSCE gave them a sense of achievement. Lecturers involved in the administration of the OSCE felt that the planning had contributed to a good learning experience for the students. [3]

There are few researches study the student's Perception about this type of clinical examination, so the investigator will report and evaluate the Nursing Student's Perception about an OSCE to highlight the difficulties that may face them during the examination.

#### **Aim of the study:**

The aim of the study was to assess the third year nursing Student's Perception about the Objective Structured Clinical Examination (OSCE) in Obstetrics and Gynecological Nursing.

#### **Research questions:**

1. What are the perceptive views of the nursing students about the organization, format and quality of OSCE?

2. What are the advantages, disadvantages and the clinical skills gained from OSCE?

## **2. Subjects and Methods:**

### **Research design:**

A descriptive analytic research was used in carrying out this study.

### **Subjects:**

### **Setting:**

This study was carried out in the Faculty of Nursing, Assiut University, Egypt.

### **Sample:**

The sample consisted of 100 female nursing students who finished the 3<sup>rd</sup> year clinical teaching course of Obstetrics & Gynecological Nursing and were evaluated by the Objective Structured Clinical Examination (OSCE).

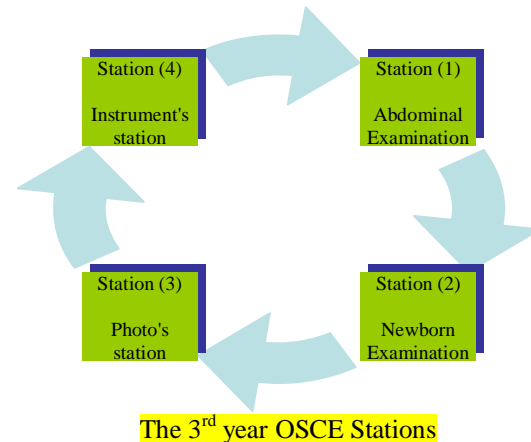
### **Course Structure:**

At the 3<sup>rd</sup> year, the students studied the clinical teaching course of the Obstetrics and Gynecological Nursing.

It included both the basic clinical skills and the clinical skills related to the specialty. The students were divided into four groups to practice and train the different skills such as: history taking, physical examination, communication skills and others.

### **OSCE Design:**

The OSCE consisted of four stations included the following: Two stations with simulated patients for the assessment of the abdominal and newborn examination. The 3<sup>rd</sup> station was photo's station to recognize the different photos related to the clinical course. The last station was instrument's station to recognize the name and function of the gynecological instruments.



**Analysis of the OSCE results:**

The teaching year	The teaching course	Pass (%)	Fail (%)
The 3 <sup>rd</sup> year	The Obstetrics and Gynecological Nursing Course	100%	0%

**Tool:**

After finishing the Obstetrics & Gynecological Nursing clinical teaching course, the student's perceptions about OSCE in Obstetrics & Gynecological Nursing were evaluated by a structured questionnaire designed by the investigator. The questionnaire was filled by those students. It included the following data:

- Sociodemographic data** such as: name, age, and residence.
- Data related to the organization of the OSCE measured** by scoring scale ranging from poor (1) to Excellent (5) such as:

(The announcement of the date and place of examination, the quality of the place of the examination, the cooperation of the staff to answer the student's questions about the examination, the orientation about the format of examination, and the revision done before the examination).

- Data related to the quality of the OSCE:**

The correlation between the OSCE and the ILOs (Intended Learning Outcomes) of the clinical curriculum, the correlation between the OSCE and the studied clinical curriculum, the correlation between the station's number and the studied clinical curriculum, the presence of difficulties in time management, the presence of the emotional distress and the quality of equipment and manikins used in examination).

- Data related to the advantages, the disadvantages** of the OSCE, the main skills gained from OSCE and the most preferable OSCE station from the point of view of students.

**Methods:**

Before implementation of the study, an official permission was obtained from the Dean of the Faculty of Nursing, Assiut University, Egypt after full explanation of the aim of the study and its

reflection on developing the clinical teaching methods at the faculty. The pilot study was carried out before implementation of the study to test the validity and reliability of the questionnaire. The necessary modifications were done based on the results of the pilot study. The data were collected over two months, October and November 2010. After finishing the teaching semester and the OSCE of Obstetrics and Gynecological Nursing Curriculum, the investigator gave each student a questionnaire to be filled. The questionnaire included data about: their sociodemographic characteristics, the organization of the OSCE, the quality of the OSCE, the advantages, the disadvantages of the OSCE and the main skills gained from OSCE from the point of view of the students. Each student was interviewed individually by the researcher at her class. The number interviewed per day was 4-5 students. The average time taken for filling each questionnaire was around 10-15 minutes depending on the response of the student. Each student was reassured that the information obtained will be confidential and used only for the purpose of the study.

**Statistical analysis:**

Statistical analysis was done by using SPSS version 16 statistical software package. Data were presented using descriptive statistics in the form of frequencies and percentages for categorical variables and means and standard deviation for quantitative variables.

**Ethical considerations:**

- There were no risks can affect the students during the application of the study.
- Informed consent was obtained from the students before their participation on the study.

**3. Results:**

Table (1) shows that the mean age of the nursing students were  $20.92 \pm 0.69$  years. As regards residence, about two thirds of the students (65%) were living in rural areas.

**Table (1): Distribution of the Nursing students according to their Sociodemographic Characteristics:**

Sociodemographic Characteristics	Frequency (n=100)	Percentage (%)
Age (Mean +SD)	20.92±0.694	
<b>Residence</b>		
Urban	35	35%
Rural	65	65%
Total	100	100%

Table (2) describes the nursing student's perception about the organization of OSCE. More than one third of the students considered the announcement of the date and the place of the examination was very good. (39% and 38%

respectively). While nearly half of the students considered the quality of the place of examination and the cooperation of the staff was excellent (40% and 49%, respectively).

**Table (2): Distribution of the Nursing students according to their perception about the organization of OSCE:**

The Student's Perception about the organization of OSCE	Frequency (n=100)	Percentage (%)
<b>1. The early announcement about the date of examination:</b>		
Poor	5	5%
Good	35	35%
Very good	39	39%
Excellent	21	21%
Total	100	100%
<b>2. The announcement about the place of examination:</b>		
Poor	2	2%
Good	28	28%
Very good	38	38%
Excellent	32	32%
Total	100	100%
<b>3. The quality of the place of examination from lightening, quietness and ventilation:</b>		
Poor	1	1%
Good	22	22%
Very good	37	37%
Excellent	40	40%
Total	100	100%
<b>4. The cooperation of the staff to answer your questions related to the organization of the examination:</b>		
Poor	5	5%
Good	19	19%
Very good	27	27%
Excellent	49	49%
Total	100	100%

Concerning the student's perception about the format of OSCE. (Table 3) identifies that more than one third of the students (39%) considered the orientation about the format of the examination was excellent, while more than two thirds of the students (41%) considered the revision done before examination was excellent.

Table (4) shows the student's perception about the quality of OSCE. Concerning the correlation of the OSCE stations with the Intended Learning Outcomes (ILOs) and the clinical curriculum, the highest percentage of the students were agreed (92% and 96%, respectively). Regarding to the suitability of the number of the OSCE stations to the studied curriculum, the majority of the students (94%) were agreed. Concerning the difficulty in time

management during the OSCE, more than half of the students (55%) were agreed. As regards the presence of emotional stress and the presence of enough equipments and manikins for OSCE, more than two thirds of the students were agreed (77% and 79%, respectively).

Concerning the advantages of OSCE, figure (1) shows that more than half of the nursing students (58%) select broader range of skills tested, while only (20%) selects the presence of wide range of examiners to reduce the risk of bias.

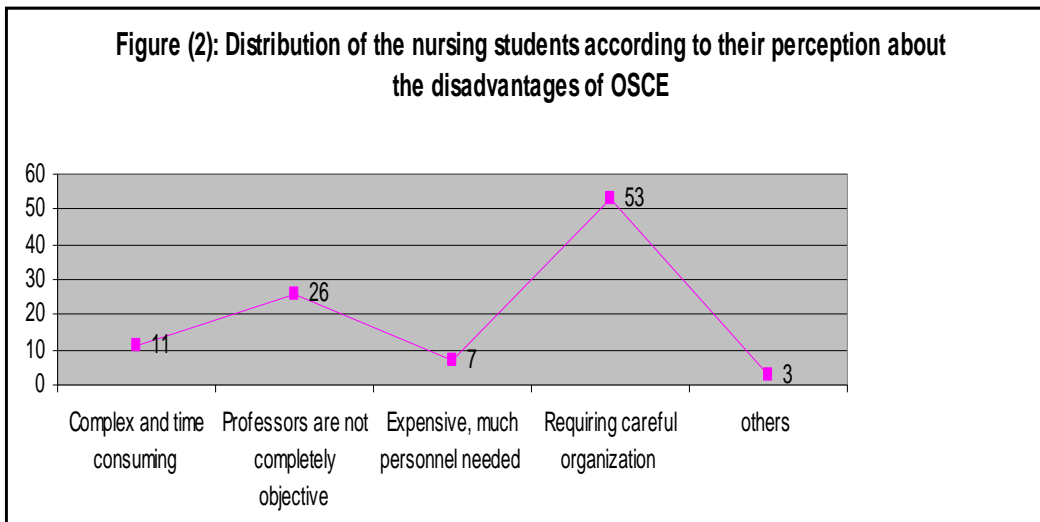
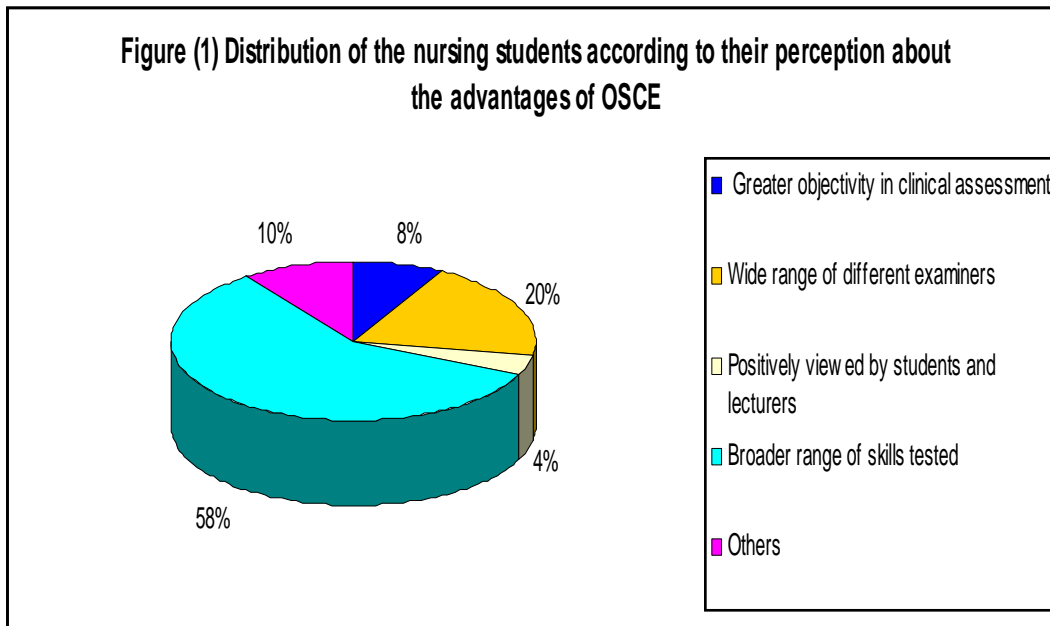
Concerning the disadvantages of OSCE, figure (2) shows that nearly two thirds of the students (53%) considered OSCE needed careful planning.

**Table (3): Distribution of the Nursing students according to their perception about the format of OSCE:**

The Student's Perception about the format of OSCE	Frequency (n=100)	Percentage (%)
<b>1. The orientation about the format of the examination:</b>		
Poor	4	4%
Good	22	22%
Very good	35	35%
Excellent	39	39%
Total	100	100%
<b>a. The duration of each station:</b>		
Poor	10	10%
Good	32	32%
Very good	33	33%
Excellent	25	25%
Total	100	100%
<b>b. The number of the OSCE station:</b>		
Poor	4	4%
Good	18	18%
Very good	42	42%
Excellent	36	36%
Total	100	100%
<b>2. The revision done before the examination about the different types of clinical procedure:</b>		
Poor	3	3%
Good	23	23%
Very good	33	33%
Excellent	41	41%
Total	100	100%

**Table (4): Distribution of the Nursing students according to their perception about the quality of OSCE:**

The Student's Perception about the quality of OSCE	Frequency (n=100)	Percentage (%)
<b>1. Did the stations of OSCE were correlated with the ILOs of the clinical curriculum?</b>		
Yes	92	92 %
No	8	8 %
Total	100	100%
<b>2. Did the stations of OSCE were correlated with the studied clinical curriculum?</b>		
Yes	96	96%
No	4	4%
Total	100	100%
<b>3. Did the number of the stations were enough in relation to the studied curriculum?</b>		
Yes	94	94%
No	6	6%
Total	100	100%
<b>4. Is there difficulty in time management during implementing the OSCE?</b>		
Yes	55	55%
No	45	45%
Total	100	100%
<b>5. Is there an emotional stress during examination?</b>		
Yes	77	77%
No	23	23%
Total	100	100%
<b>6. Are there equipments and manikins enough and had good quality?</b>		
Yes	78	78%
No	22	22%
Total	100	100%



**Table (5): Distribution of the Nursing students according to their perception about the skills gained from OSCE:**

The student's perception about the skills gained from OSCE:	Frequency (n=100)	Percentage (%)
a. Patient's taking history.	10	10 %
b. Counseling and health education.	13	13 %
c. Problem Solving.	9	9 %
d. The physical examination	60	60%
e. The translation of the electronic fetal heart traces.	3	3 %
f. The interpretation of the results of investigation.	5	5 %
Total	100	100 %

**Table (6): Distribution of the Nursing students according to their perception about the most preferable OSCE station:**

The student's perception about the most preferable OSCE station:	Frequency (n=100)	Percentage (%)
a. Physical examination station.	24	24 %
b. Gynecological instrument's station.	63	63 %
c. Photo's station.	13	13 %
Total	100	100 %

Table (5) shows the student's perception about the skills gained from OSCE. More than half of the students (60%) considered the physical examination skills is the most skill gained from OSCE.

Table (6) shows the nursing student's perception about the most preferable OSCE station. Nearly two thirds of the students (63%) considered the Gynecological instrument's station is the most preferable OSCE station.

#### 4. Discussion:

Assessment is central to any programme of education but is particularly relevant to nursing in order to ensure those who become registered nurses are safe and competent practitioners [12].

Objective structured clinical examinations (OSCEs) are an effective assessment strategy for assessing clinical skills [13] and for highlighting curriculum problem areas [8]. Their popularity has increased among nurse educators over the last decade [3].

OSCEs are now used within schools of Nursing and Midwifery as they can potentially assess both the theoretical and practical aspects of student's competence and can be more objective than assessment conducted in clinical practice [4; 14; 15].

The aim of the present study was to assess the perceptive view of the Egyptian nurse students in order to evaluate the process of OSCE. The questions of how was the clinical experience perceived by the students about the organization, format and the quality of OSCE process, and what were the advantages, disadvantages and the clinical skills gained from OSCE.

The results indicated that nearly half of the students considered the organization of OSCE is very good which is inconsistent with Troncon [16] who mentioned that nearly half of the students (48%) criticized the organizational aspects of OSCE.

Moreover, Furlong, *et al* [5] reported that in relation to the preparation of OSCE, the most of the students agreed that they were sufficiently prepared for the format and the content of the examination (87% and 82.7%, respectively).

Concerning the emotional stress initiated by OSCE, more than two thirds of the students (77%)

perceived this method of assessment as stressful which is similar to the research work reported by Brosnan [4] who mentioned that more than half of the students (52.7%) agreed that OSCE was more stressful than a written formal examination.

These findings are also consistent with Major [8] who clarified that the students still graded this method of assessment as stressful.

Meanwhile, Furlong, *et al.* [5] reported that the majority of the students (90%) of the nurse students in his survey perceived OSCE as a stressful method and they agreed that there were sufficiently prepared for the format and content of examination.

On the other hand, Marshall and Jones [17] reported that OSCE as a stressful method than other methods of assessment is not clearly defined because OSCE is not well established in nursing education.

The present study revealed also that more than half of the students (55%) had difficulties in time management during implementation of OSCE.

This finding is in agreement with Troncon [16] who reported that more than two thirds of the students (70%) considered OSCE process is difficult in time management and attributed higher grades to the degree of emotional stress elicited by the examination.

The difficulties on the part of the students in managing time during OSCE stations might be related to different factors including student's immaturity and lack of training in time management [16].

According to the present study, the success rate of OSCE was 100% which is inconsistent with Brosnan [4] who clarified that the success rate of OSCE was 95%.

On the other hand, Troncon [16] reported that the success rate of OSCE was 92%.

Concerning the advantages of OSCE, the present study findings revealed that the broader range of skills tested is the highest proportion of the advantages of OSCE (58%).

Mitchell, *et al.* [18] considered measuring an integration of skills is the main advantages of OSCE which is consistent with the present study.

Meanwhile, Major [8] reported that the main advantage of OSCE is putting the students in a real situation.

Buckingham [19] reported that the main advantage of OSCE is providing greater objectivity for assessment particularly for junior student.

Concerning the disadvantages of OSCE, the present study indicated requiring careful planning as the highest proportion (53%).

While OSCEs are an effective method of assessing clinical competence [20], they are costly to execute in terms of manpower, resources and time elements and require careful planning to be successful which is similar to the present study. [13]

The present results indicated important information about the student's perceptive views about the organization and format of OSCE. The key learning points that arose from this research related to the benefits of interviewing students after finishing their OSCE. The interview provided a useful opportunity for providing feedback for the students and listening to their perceptions about OSCE process.

### 5. Conclusions:

Objective structured clinical examination can be a part of an effective assessment strategy of nursing clinical education in Obstetrics and Gynecological Nursing branch and provide a positive learning experience. This paper discusses Obstetrics and Gynecological nursing student's perceptive views about an OSCE in relation to organization, format and the quality of examination. It is interesting to note that there is more need for careful preparation and organization of OSCE. In the light of the present study findings, it can be concluded that the majority of the students appreciate the format of OSCE. The study has also highlighted that there are more need for training the students on time management and relieving their emotional stress during implementation of OSCE. The students noted that the main benefit of OSCE is testing a broader range of skills and the main disadvantage is its need for careful planning and organization. It is interesting to note that the students considered the physical examination is the most skill gained from OSCE.

### Recommendations:

It is essential to consider the recommended use of OSCE prescribed within wider context in nursing curriculum evaluation models. The study has identified many areas for further exploration. A larger study is needed to establish the effectiveness of OSCE with in nurse education programs. An exploration of how successfully students transfer into clinical practice and to explore the validity and reliability of OSCE. More research is required involving larger number of students from different faculties of nursing.

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