



## OSCE as summative evaluation for neurological examination: Perception of nursing students

<sup>1</sup>Uma, <sup>2</sup>Muthukumaran, <sup>3</sup>Dr. Anupama K, <sup>4</sup>Dr. Neelam Kaur and <sup>5</sup>Usha

<sup>1, 3, 5</sup>Professor, Akal College of Nursing, Eternal University, Himachal Pradesh, India

<sup>2</sup>Assistant Professors, Akal College of Nursing, Eternal University, Himachal Pradesh, India

<sup>4</sup>Dean, Akal College of Health and Allied Sciences, Eternal University, Himachal Pradesh, India

DOI: <https://doi.org/10.33545/nursing.2022.v5.i2.B.279>

### Abstract

**Introduction:** OSCE is a method of practical examination and a tool for evaluation. Instead of patients, topics and materials are used. It serves as a multidimensional practical test of clinical abilities as well as a tool for determining scientific competence Situation in the medical field. Aim of this study to assess the perception of nursing students on OSCE as a Summative method of evaluation regarding neurological examination among students pursuing nursing education at district Sirmour, Himachal Pradesh.

**Methods:** A cross sectional descriptive survey design was adopted for the study to determine the effectiveness of OSCE in appraisal of clinical skills in Neurological examination among III year B.Sc. Nursing students. A convenience sampling technique was used to select 49 members, after obtaining consent OSCE was conducted with 5 stations to assess the clinical competencies necessary to perform the Neurological Examination and Perception of OSCE was assessed using the 5 point Likert Scale questionnaire.

**Results:** The study result showed that highest percentage of students 42 students (85.7%) has their preference of examination as traditional method and only 7 (14.3%) of students preferred OSCE as a type of evaluation for examination. The overall perception shows that majority of students (55.1%) had negative perception about OSCE and 42.9% had neutral perception towards OSCE method of evaluation.

**Conclusion:** Implementation of OSCE along with traditional method of clinical evaluation may enhance practice and enable the students to provide quality care by following principles and steps of procedure. Quality of learning can be enhanced by stressing more on OSCE method of assessment both as a formative and summative evaluation in nursing curriculum.

**Keywords:** OSCE - Objective structured clinical examination, neurological examination, perception, evaluation, nursing

### Introduction

A current approach of testing scientific competency is the Objective Structured Clinical Examination (OSCE) it is frequently referred to as the "Gold standard" for evaluating medical competence. It's a graded assessment tool that was created for use in treatment in the mid-1970s [1].

OSCE is a method of practical examination and a tool for evaluation. Instead of patients, topics and materials are used. It serves as a multidimensional practical test of clinical abilities as well as a tool for determining scientific competence Situation in the medical field. Since its development in the 1970s, the OSPE/OSCE (objective structured clinical examination) has gained prominence as a method for evaluating medical competence [2].

It is well acknowledged that OSCE is a solid assessment tool that aids in pupil mastery. It takes a more goal-oriented approach to evaluation. It takes a more goal-oriented approach to evaluation. It can cover a wider range of realistic abilities than a "conventional" test. It allows pupils to demonstrate a wide range of knowledge and abilities as well as abilities when used well, the OSCE can be a very useful tool. Evaluate the student's scientific abilities [3]. It

can be used as a summative evaluation to evaluate students' overall performance within realistic capabilities, as well as a formative assessment in which the student receives feedback as part of the learning process [4].

It has the potential to be built in such a way that a wide range of laboratory teaching goals can be investigated, and each issue may be given the appropriate weighting [6]. This is an assessment method in which candidates go around a circuit of stations, performing particular tasks at each station, usually including a clinical skill, such as taking a patient's history or performing a physical examination. Each station's marking scheme is planned and selected ahead of time [7].

OSCE is an assessment tool that encourages pupils to learn material. It takes a more goal-oriented approach to evaluation. It can cover a wider range of realistic abilities than a "conventional" test. It enables pupils to demonstrate a wide range of information, skills, and abilities. We can check scientific skills in OSCE by breaking down each competency into smaller compartments such as history taking, acting scientific test, speaking, interpretation, and so on. In turn, each aspect is evaluated and grades are assigned

in accordance with specified checklists. OSCE is a medical evaluation tool that is commonly used in the medical industry. To overcome traditional examination prejudice, struggle, and study for the exam in a laboratory setting, similar to the herbal context, assessing the student's competence using OSCE may be the best option. Because it's a more current method with a lot of study previously done in specific locations and topics [8].

This study aims to assess the perception of nursing students on OSCE as a Summative method of evaluation regarding neurological examination among students pursuing nursing education at district Sirmour, Himachal Pradesh.

### Methodology

A cross sectional descriptive survey design was adopted for the study to determine the effectiveness of OSCE in appraisal of clinical skills in Neurological examination among III year B.Sc. Nursing students and explore the perception of students regarding OSCE as a method of summative evaluation.

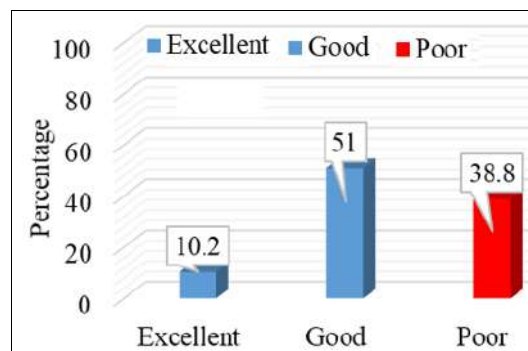
A convenience sampling technique was used to select 49 members (Taro Yamane simplified formula 95% confidence level and Degree of Accuracy/Margin of Error  $p = 0.05$ ) from III year B.Sc.(N) students studying at one of the private nursing college situated at district sirmour, Himachal Pradesh. OSCE was conducted with 5 stations, (2 manned - Station, 3 unmanned stations and one rest station) to assess the clinical competencies necessary to perform the Neurological Examination. Perception of OSCE was assessed using the 5 point Likert Scale questionnaire developed by investigators which consists of three domains such as i. Evaluation aspect of OSCE (12 questions), ii. Quality on Performance Testing of OSCE (8 questions), iii. Strength & Trustworthiness of OSCE (5 questions). The formal permission was taken from the principal of the college and informed consent was obtained from the participants. Anonymity and confidentiality of the participants was maintained. The data was analyzed by using descriptive and inferential statistics with SPSS.

### Results

**Table 1:** Distribution of Participants based on Type of Evaluation they prefer for Clinical Examination N = 49

Type of Evaluation	Frequency	Percentage
Traditional Method	42	85.7
OSCE	7	14.3

The above table showed that highest percentage of students 42 students (85.7%) has their preference of examination as traditional method and only 7 (14.3%) of students preferred OSCE as a type of evaluation for examination. N = 49

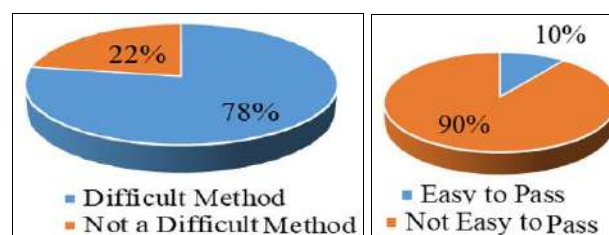


**Fig 1:** Clinical Performance based on OSCE method of Evaluation

The figure 1 shows that majority of students 51% had good, 38.8% had poor and 10.2% had excellent clinical performance based on OSCE method of evaluation.

### I. Perception of Nursing Students On OSCE method of Evaluation

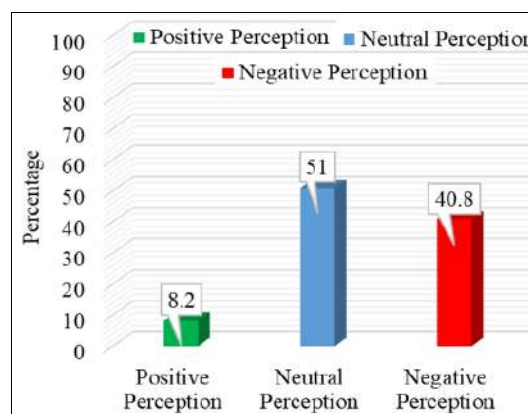
#### A. OSCE Difficulty Index N = 49



**Fig 2:** Distribution participants based on OSCE difficulty index

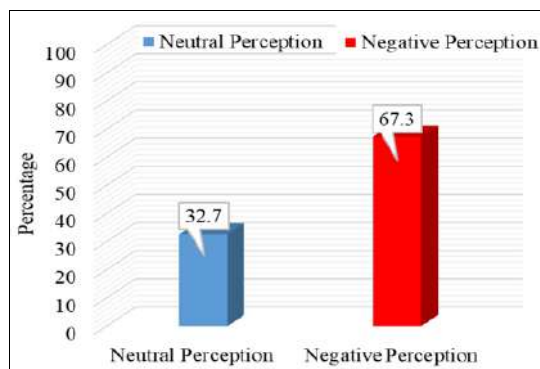
With regard to difficulty index majority of students 38 (77.6%) find OSCE as a more difficult method of evaluation whereas 11 (22.4%) students found it is not more difficult method of evaluation. According to percentage distribution, Majority of students 44 (89.8%) perceives that OSCE is not an easier method of evaluation to pass the examination and only 5 (10.2%) students perceives that it is an easier method of evaluation to pass the examination

#### B. Perception on Evaluation of OSCE N = 49

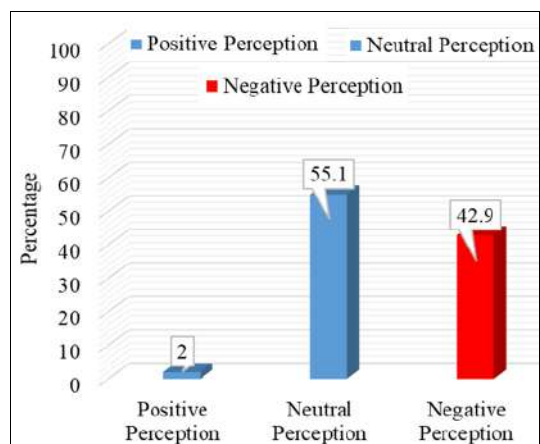


**Fig 3:** Perception of Nursing Students on Evaluation of OSCE

#### C. Perception about Quality on Performance Testing of OSCE N = 49

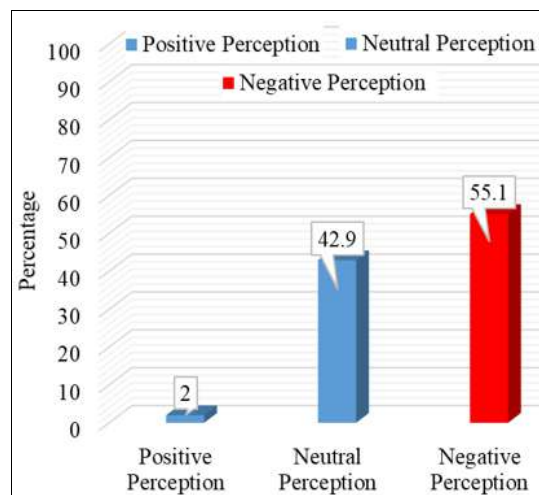


**Fig 4:** Perception about Quality on Performance Testing of OSCE  
**D. Perception about Strength & Trustworthiness of OSCE N = 49**



**Fig 5:** Perception about Strength & Trustworthiness of OSCE

#### E. Overall perception about OSCE among Nursing Students N = 49



**Fig 6:** Perception about OSCE among Nursing Students

The Fig 6 shows that majority of students (55.1%) had overall negative perception about OSCE and 42.9% had neutral perception.

#### II. Association between Clinical Performance and Perception about OSCE

**Table 3:** Association between Clinical Performance and Perception about OSCE among Nursing Students N = 49

S. No	Perception About OSCE	Clinical Performance			Mean & SD	$\chi^2$	df	p value
		Excellent	Good	Poor				
1.	Evaluation aspect of OSCE				39.0204 ≠ 6.65047	7.960	4	0.042*
	a. Positive	2	1	1				
	b. Neutral	2	14	9				
2.	Quality on Performance Testing of OSCE				21.612 ≠ 3.8558	2.990	2	0.047*
	a. Positive	0	0	0				
	b. Neutral	3	9	4				
3.	Strength & Trustworthiness of OSCE				14.857 ≠ 2.8577	11.815	4	0.035*
	a. Positive	1	0	0				
	b. Neutral	4	13	10				
	c. Negative	0	12	9				

(\* Significant at  $p < 0.05$ )

The One way ANOVA test used to find association between the clinical performance and perception about OSCE among nursing students. It was found evaluation aspect of OSCE ( $p = 0.042$ ), Quality on performance testing of OSCE ( $p = 0.047$ ), Strength and trustworthiness of OSCE ( $p = 0.035$ )

were significantly associated with Clinical performance ( $p < 0.05$ ). Hence the null hypothesis was rejected.

#### III. Correlation between the perceptions of OSCE

**Table 4:** Correlation between perception of nursing students on OSCE method of evaluation N = 49

S. No	Perception About OSCE	Evaluation aspect of OSCE	Quality on Performance Testing of OSCE	Strength & Trustworthiness of OSCE
1.	Evaluation aspect of OSCE	$r = 1$	$r = 0.578$ $p \text{ vale} = 0.000^{**}$ $N = 49$	$r = 0.525$ $p \text{ vale} = 0.000^{**}$ $N = 49$
2.	Quality on Performance Testing of	$r = 0.578$	$r = 1$	$r = 0.371$

	OSCE	p vale = 0.000** N = 49		p vale = 0.009* N = 49
3.	Strength & Trustworthiness of OSCE	r = 0.525 p vale = 0.000** N = 49	r = 0.371 p vale = 0.009* N = 49	r = 1

(\* Significant at  $p < 0.05$ , \*\* Highly Significant at  $p < 0.001$ )

## Discussion

The findings of the study have been discussed in accordance with the objectives of study and previously reviewed literature. The study result showed that highest percentage of students 42 students (85.7%) has their preference of examination as traditional method and only 7 (14.3%) of students preferred OSCE as a type of evaluation for examination.

According to percentage distribution, Majority of students 44 (89.8%) perceives that OSCE is not an easier method of evaluation to pass the examination and only 5 (10.2%) students perceives that it is an easier method of evaluation to pass the examination.

Regarding the evaluation aspect of OSCE, Most of the students have neutral perception towards the components of Evaluation aspect of OSCE method. Regarding Quality of performance testing of OSCE, the frequency distribution is high for neutral perception. According to the frequency percentage regarding strength and trust worthiness of OSCE, majority of students expressed a neutral perception and also equally agreed that the OSCE scores are standardized.

The overall perception shows that majority of students (55.1%) had negative perception about OSCE and 42.9% had neutral perception.

## Conclusion

The present study conducted to assess the perception of OSCE method of Evaluation among B.Sc. Nursing students studying at one of the private nursing college situated at district sirmour, Himachal Pradesh, revealed that majority of students has neutral perception towards the OSCE method of evaluation. Considering the current pandemic of Covid-19, the Objective Structured Clinical Examination can be helpful to assess the student's skill as well as skill based knowledge through manned and unmanned station. Implementation of OSCE along with traditional method of clinical evaluation may enhance practice and enable the students to provide quality care by following principles and steps of procedure. Quality of learning can be enhanced by stressing more on OSCE method of assessment both as a formative and summative evaluation in nursing curriculum.

## Research funding

No fund received from any agency, self-funded research study.

## References

1. Naik N. Attitude towards nursing education practical exam among, M.Sc. nursing students. Singhad e J Nurs. 2012;2(2):10-12.
2. El-Nemer AMR, Kandeel N. Using OSCE as an assessment tool for clinical skills. Aust J Basic Appl Sci. 2009;77(4):2465-2472.
3. Kundu D, Sen G, Osta M, Gautam D. Objective structured practical examination in biochemistry. J Nat

Sci Biol Med. 2013;(1):103-107.

4. Kowlowitz V, Hoole AJ, Sloane PD. Implementation of the objective structured clinical examination in a traditional medical school. J Acad Med. 1991;66:345-347.
5. Becker MK, Neuwirth JM. Teaching strategy to maximize clinical experience with beginning nursing students. J Nurs Educ. 2002;41:89-91.
6. Bartfay WJ, Rombough R, Howse E, Le Blanc R. The OSCE approach innursing education. Can Nurse. 2004;100(3):18-25.
7. Boursicot K, oRberts T. How to set up an OSCE. Clin Teacher. 2005;2(1):16-20.
8. Anupama K. Objective Structured Practical Examination (OSPE) in Nursing. International Journal of Evidence Based Nursing. 2019;2(2):12-17.