

OSCE vs. TEM: Different Approaches to Assess Clinical Skills of Nursing Students

Abstract

Introduction: Nurses are trained with specific clinical skills, and objective structured clinical examination (OSCE) could be a better approach to assess clinical skills of nursing students. **Materials and Methods:** A comparative study was conducted by observational checklist regarding antenatal care and opinionnaire on the usefulness of OSCE and tradition evaluation method (TEM) was used to assess the clinical skills and to get opinion. **Results:** The mean score of OSCE was more than TEM and the difference was statistically significant ($P < 0.001$). The opinion of students regarding the usefulness of OSCE was higher than TEM. **Conclusions:** The study concluded that implementing OSCE will overweigh the advantages of the TEM.

Keywords: Clinical skills, India, nursing students, OSCE, traditional examination method

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Introduction

The objective structured clinical examination (OSCE) is a method in which students are assessed for clinical skills in a series of simulated stations that may involve history collection, physical assessment, laboratory investigation, and treatment.^[1]

Traditional evaluation methods (TEM), such as oral viva, written assignment, multiple choice questions, and clinical observational reports, are often used in the assessment of medical students. These TEM systems have poor reliability and validity in terms of practicality.^[2-4] On the other hand, OSCE has been found to better assess clinical and cognitive skills of graduate medical students.^[5,6]

The conventional clinical and practical examination are overwhelmed with several problems. OSCE is a modern type of examination often used in health sciences (e.g., medicine, physical therapy, nursing, pharmacy, etc.) to test clinical skill performance such as communication, clinical examination, medical procedures or prescription, and exercise prescription.^[7]

The objectives of the study were to assess the skills of final year B.Sc. nursing students in providing antenatal care by OSCE and TEM, and to get opinion of

evaluators and final year B.Sc. nursing Students regarding OSCE and TEM.

Materials and Methods

An evaluative-comparative research was conducted by adapting posttest only design among 37 final year B.Sc. nursing students in selected institutions of Nursing. Tools used for data collection were an observational checklist regarding antenatal care (ANC) and an opinionnaire on the usefulness of OSCE and TEM. Content validation was done by experts and reliability was established. Interrater reliability method was used for observational checklist ($r = 1$). A pilot study was conducted and the study was found to be feasible.

To evaluate participants at different OSCE stations and TEM, eight clinical instructors (CIs) were selected from OBG Nursing Department, with 1 year of experience. All the CIs and students were briefed regarding ANC, and blueprint of TEM and OSCE methodology was explained.

Data were collected in a series of skill assessment followed by obtaining opinion. There was a 20-day gap in the assessment of skills between TEM and OSCE on the basis of memory curve. Data analyses were done by using descriptive and inferential statistical methods.

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Ethical considerations

Ethical approval was taken from institutional ethical committee. The aim of the study was explained to the students and a written informed consent was obtained.

Results

The majority of participants 32 (86.5%) scored high in skills when evaluated by OSCE than TEM. The interesting fact which was observed was that none of the participants scored less than 50 when evaluated by OSCE, whereas mostly [24 (64.86%)] members scored below 50 with TEM (maximum possible score was 75).

The means (SD) of OSCE and TEM skills scores were 65.43 (3.43) and 46.02 (7.57) against the maximum possible scores of 75 and 75 for OSCE and TEM. The skills scores evaluated by OSCE and TEM was found significant [t (cal) = 15.77 at 0.001 level of significance] [Table 1].

The results regarding the opinion of nursing students showed that both were in favor of OSCE than TEM as the method of clinical skills evaluation, which was significant at 0.001 level (McNemar's test), except item no. 7 and 9 [Table 2].

Data regarding opinion on the usefulness of TEM and OSCE by evaluators revealed that there was 100% agreement toward the usefulness of OSCE as an evaluation method in items 7 and 10, whereas in TEM agreement was only 12.5% and 75%, respectively [Table 3].

Discussion

The present study aimed to compare OSCE and TEM in assessing the skills of nursing students and to obtain opinion about OSCE and TEM from participants and evaluators of OSCE.

The skills scores evaluated by OSCE were significantly better than that of the TEM skills scores [paired (36) = 15.770 at 0.001 level]. Similar findings^[8] have shown that the experimental group had a greater improvement in performance evaluated by OSCE than the control group at 13.43% compared with 6.76% ($P < 0.05$). It can be concluded that the difference of mean observed was the true difference, and that the OSCE method is effective than TEM as an evaluation method.^[9,10]

It was noted that the evaluators and nursing students were in favor of OSCE as an evaluation method than TEM, which was found to be significant at 0.001 level, except item numbers 7 and 9 by the nursing students. These findings are consistent with the findings of another study.^[11]

Conclusion

The findings of the present study concluded that the skills of final year B.Sc nursing students evaluated by

Table 1: Difference in clinical skills score assessed by OSCE and TEM (n=37)

Approaches	Mean (SD)	Mean _D	SD _D	SE _{Mean}	Paired t-test
OSCE	65.43 (3.43)	19.41	4.14	1.231	15.77*
TEM	46.02 (7.57)				

t (36)=3.582; $P < 0.001$; *Significant at 0.001

Table 2: Opinion of nursing students on usefulness of TEM and OSCE (n=37)

Item of the Opinionnaire	TEM	OSCE		P
		Agree	Disagree	
It gives more freedom to perform procedure	Agree	6	1	0.01
	Disagree	25	5	
It gives enough time to think	Agree	8	2	0.01
	Disagree	20	7	
It tests actual knowledge	Agree	5	3	0.01
	Disagree	26	3	
It gives less chance for evaluator's bias	Agree	5	4	0.01
	Disagree	26	2	
It requires minimal use of resources (personnel and space)	Agree	8	21	0.01
	Disagree	3	5	
It is an objective type evaluation	Agree	4	2	0.01
	Disagree	24	7	
It tests over all ability of performance	Agree	8	7	0.13*
	Disagree	15	7	
It is easy to complete the task in time	Agree	5	2	0.01
	Disagree	26	4	
It increases anxiety	Agree	18	11	0.33*
	Disagree	6	2	
It improves interest to proceed through examination	Agree	4	0	0.01
	Disagree	30	3	

*Not significant

Table 3: Opinion of OSCE evaluators on usefulness of TEM and OSCE (n=8)

Item of the Opinionnaire	Agree F (%)	
	OSCE	TEM
It gives more freedom to perform procedure	6 (75)	2 (25)
It gives enough time to think	5 (62.5)	2 (25)
It tests actual knowledge	4 (50)	3 (37.5)
It gives less chance for evaluator's bias	6 (75)	3 (37)
It requires minimal use of resources (personnel and space)	3 (37.5)	7 (87.5)
It is an objective type evaluation	7 (87.5)	1 (12.5)
It tests over all ability of performance	8 (100)	1 (12.5)
It is easy to complete the task in time	5 (62.5)	2 (25)
It increases anxiety	1 (12.5)	7 (87.5)
It improves interest to proceed through examination	8 (100)	6 (75)

OSCE was higher than the score of TEM. The study findings point toward the significance of self-directed and student-centered innovative evaluation methods in nursing education.

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Conflicts of interest

There are no conflicts of interest.

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