

A comparative study to assess the effectiveness of OSCE vs Traditional method (essay type) in terms of knowledge regarding ABG analysis among B.Sc. nursing students

Simaranjit Kaur

M.M.College of Nursing, Mullana, Ambala, Haryana, India

Abstract

A comparative study to assess the effectiveness of OSCE vs Traditional method (essay type) in terms of knowledge regarding ABG analysis among B.sc nursing. The present study aimed to assess 1) to assess and compare OSCE v/s Traditional method (essay type) in terms of knowledge regarding ABG analysis among B.sc nursing students. 2) To determine the association of level of knowledge regarding ABG analysis with their selected demographic variables. 3) To determine the association of level of satisfaction regarding ABG analysis with their selected demographic variables. The research approach for the study was non-experimental research approach with descriptive comparative research design. The study conducted in the Maharishi Markandeshwar College of nursing Mullana, Ambala. The knowledge questionnaire for Traditional method and different stations for OSCE was used to collect data and rating scale was used for checking the level of satisfaction. Data obtained were analyzed using descriptive and inferential statistics in terms of frequency, percentage, mean, median, standard deviation and chi square using SPSS version 17.0. Personal variables revealed that for both the OSCE and the tradition method majority of student were in the age group of 19-21 i.e. 70% for OSCE an 60% for Traditional. Majority of students are female i.e. For OSCE 72.5% and Traditional 70%. Majority of students resides in hostel i.e. for OSCE 70% and Traditional 72.5%. Majority of student were having the previous knowledge regarding ABG analysis. Majority of students lies in the category of last year percentage 50-75% i.e. for OSCE 77.5% and for tradition is 80%. Level of knowledge of B.SC nursing students towards OSCE is good (42.5%) and in the tradition is average (62%). Majority of students i.e. 65% agree with OSCE method and for Traditional it is 30%. Mean standard deviation for OSCE is 4.8 ± 2.28 and for Traditional it is 2.8 ± 1.45 . The mean scores found with the OSCE method (mean=4.8) and the score by Traditional method (mean=2.8) and there has been a significant difference between the scores ($z=4.04$). The findings of the study have several implications for nursing practices, education, administration and research. Based on the findings the following recommendations are proposed for future research: A similar study can be conducted with a large sample, the study can be conducted in different setting. A comparative study can be conducted with different methods of examination. An experimental study can be conducted. A longitudinal study can be conducted. OSCE can be used as a better method for evaluation than Traditional method. OSCE should be used as a method of evaluation.

Keywords: OSCE, traditional method, ABG analysis

1. Introduction

Objective structured clinical examination (OSCE) has been widely used in the assessment of students' clinical performance. Research revealed that it is an effective evaluation tool for nursing students' clinical skills^[1]. The quality of an assessment depends on its reliability, validity, educational impact, acceptability and feasibility. Though marking should depend only on student and patient variability in a clinical examination, it is often seen that examiner variability based on subjectivity can significantly affect scoring. It was a real concern for those involved in education that the integration of theory and clinical courses together should happen in the same position, therefore, medical universities have been always thinking of new and efficient methods of assessment^[2].

The Traditional method or essay type method refers to any written test that requires an examinee to write a sentence, a paragraph or longer passages and that demands a subjective judgment about its quality and completeness when it is scored^[3]. It requires a student to compose in one or more paragraphs an answer to a specific problem. It calls forth most of the skills which the composition course tries to develop^[4].

2. Objectives

1. To assess and compare OSCE v/s Traditional method (essay type) in terms of level of knowledge regarding ABG analysis among B.sc nursing students.
2. To assess and compare OSCE v/s Traditional method (essay type) in terms of level of Satisfaction regarding ABG analysis among B.sc nursing students.
3. To determine the association of level of knowledge regarding ABG analysis with their selected demographic variables.
4. To determine the association of level of satisfaction regarding ABG analysis with their selected demographic variables.

3. Material and Methods

The research approach adopted for the study was non-experimental with descriptive comparative design. The present study was conducted on eighty students (forty for each group) to assess their knowledge and satisfaction regarding type of examination among nursing students Ambala, Haryana. The sample was selected using random sampling technique. The tool developed and used for data

collection was structured knowledge questionnaire for OSCE and Traditional method and \criterion measurement for level of satisfaction.

Table 1: Criteria for Assessment of Level of Knowledge

Level of Knowledge	Range
Average	0-3
Good	4-7
Very Good	8-10

Table 2: Criteria for Measurement Level of Satisfaction

Level of Satisfaction	Range
No Comments	16-28
Strongly Disagree	29-41
Disagree	42-54
Agree	55-67
Strongly Agree	68-80

4. Results

Table 3: Shows Frequency and Percentage Distribution of B.Sc. Nursing 2nd Year Students in Terms of Socio Demographic Variables

Variables		Osce (N=40)		Traditional (N=40)		Overall(N=80)	
		F	%	F	%	F	%
Age	<19	10	25	13	32.5	23	28.75
	19-21	28	70	24	60	52	65
	22-24	02	05	03	7.5	05	6.25
	25	00	00	00	00	00	00
Gender	Male	11	27.5	12	30	23	28.75
	female	29	72.5	28	70	57	71.25
Place of residence	Hostel	28	70	29	72.5	57	71.25
	Rented room/PG	4	10	04	10	08	10
	Own home/relatives	8	20	07	17.5	15	18.75
Previous knowledge regarding ABG analysis	Yes	36	90	33	82.5	69	86.25
	No	4	10	07	17.5	11	13.75
Last Year Percentage	<50%	8	20	06	15	14	17.5
	50-75%	31	77.5	32	80	63	78.75
	>75%	1	2.5	02	05	03	3.75

Table 4: Frequency and Percentage Distribution of B.Sc. Nursing Students as According to Level of Knowledge for Osce and Traditional Method

Level	Osce (N=40)		Traditional (N=40)	
	F	%	F	%
Average(0-3)	14	35	25	62.5
Good (4-7)	17	42.5	15	37.5
Very good(8-10)	9	22.5	00	00

Table 5: Frequency and Percentage Distribution of B.Sc. Nursing Students as According to Level of Satisfaction for Osce and Traditional Method

Level	Osce (N=40)		Traditional (N=40)	
	F	%	F	%
No comments (16-28)	01	2.5	01	2.5
Strongly disagree (29-41)	01	2.5	01	2.5
Disagree (42-54)	05	12.5	23	57.5
Agree (55-67)	26	65	12	30
Strongly agree (68-80)	7	17.5	03	7.5

Table 6: Mean, Mean Difference, S.E of Mean Difference and 'Z' Value of Osce and Traditional Method in Terms of Knowledge Regarding Abg Analysis Among B.Sc. Nursing Students

Method	Mean	Md	Sem	Df	Z -Test
Osce(N=40)	4.8	2.0	0.443	78	4.04
Traditional(N=40)	2.8		0.221		

Table 7: Mean, Mean Difference, S.E of Mean Difference and 'Z' Value of Osce and Traditional Method In Terms Of Knowledge Regarding Abg Analysis among Bsc Nursing Students

Method	Mean	Md	Sem	Df	Z -Test
Osce(N=40)	4.8	2.0	0.443	78	4.04
Traditional(N=40)	2.8		0.221		

5. Major Findings

- In both the OSCE and the tradition method majority of student were in the age group of 19-21 i.e. 70% for OSCE and 60% for Traditional. Majority of students are females i.e. for OSCE 72.5% and Traditional 70%. Majority of students resides in hostel i.e. for OSCE 70% and Traditional 72.5%. Majority of student were having the previous knowledge regarding ABG analysis. Majority of students lies in the category of last year percentage 50-75% i.e. for OSCE 77.5% and for tradition is 80%.
 - Level of knowledge of B.SC nursing students towards OSCE is good (42.5%) and in the tradition is average (62%)
 - Majority of students i.e. 65% agree with OSCE method and for Traditional it is 30%
 - Mean standard deviation for OSCE is 4.8 ± 2.28 and for Traditional t is 2.8 ± 1.45 .
 - The mean scores found with the OSCE method (mean=4.8) and the score by Traditional method (mean=2.8) and there has been a significant difference between the scores ($z=4.04$).
2. Ahmad C, Ahmad N, Abu Baker R. Assessing Nursing Clinical Skills Performance Using Objective Structured Clinical Examination (OSCE) for Open Distance Learning Students in Open University Malaysia. International Conference on Information; Kuala Lumpur. 2009, 12-13.
 3. Brosnan M, Evans W, Brosnan E, Brown G. Implementing objective structured clinical skills evaluation (OSCE) in nurseregistration programmes in a centre in Ireland: A utilisation focused evaluation. Nurse Educ Today. 2006; 26:115-122.
 4. Austin Z, Gregory P, Tabak D. Simulated patients vs. standardized patients in objective Structuredclinical examinations. Am J Pharm Educ. 2006; 70:119.

6. Implication of the Study

6.1 Nursing Administration

- Nurse administrator can make effort to conduct in-service education program based on clinical skills of student nurses.
- Nurse administrator are in key position to prepare different methods of examination to evaluate knowledge of their nurses.

6.2 Nursing Education

- All nursing students can be taught about OSCE and Traditional methods skills.
- In nursing curriculum these methods must be involved for examination.

6.3 Nursing Research

- Present study generate specific literature for students to check the effectiveness of OSCE vs Traditional method in terms of knowledge regarding ABG analysis.
- Further research including more universities is recommended to identify the other factors that may influence the effectiveness of OSC vs traditions in terms of knowledge regarding ABG analysis.
- Knowledge level could be compared in groups who were oriented to both groups.

6.4 Recommendation

- A similar study can be conducted with a large sample.
- The study can be conducted in different setting.
- A comparative study can be conducted with different methods of examination.
- A experimental study can be conducted.
- A longitudinal study can be conducted

7. References

1. Casey PM, Goepfert AR, Espey EL, Hammoud MM, Kaczmarczyk JM, Katz NT, N, *et al.* To the point: reviews in medical education — the Objective Structured Clinical Examination. American Journal Obstetric Gynecology. 2009; 200(1):25-34.