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A study to assess the effectiveness of OSCE (Objective structured clinical examination) method on cardiopulmonary resuscitation (CPR) among B.Sc. Nursing 2nd Year Students of Government College of Nursing, Ujjain (M.P.)

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Abstract

The practice of cardiopulmonary resuscitation dates a way back to 1740, but even today it remains a nightmare to the majority of the population. Cardiopulmonary resuscitation can save lives if given correctly and immediately to the sudden cardiac arrest victims. Therefore

Aim of the Study: Is to assess the effectiveness of OSCE (Objective Structured Clinical Examination) Method on Cardiopulmonary Resuscitation (CPR) Among B.Sc. Nursing 2nd Year Students.

Material and Method: One group Pre Test –Post Test pre experimental Research design. Total sample consisted of 40 B.Sc. Nursing second year students through a Non probability purposive sampling technique.

The Findings of the study: Indicated that in pre – test 67.5% had poor skill, 25% had average skill and 7.5% had good skill while in post-test 60% had good skill, and 40% of them had good skill. In this mean difference between pre-test and post test scores is 8.57. The calculated 't' value 14.19. This concluded that demonstration on cardiopulmonary resuscitation with OSCE method was effective in improving skill on cardiopulmonary resuscitation among B.Sc. nursing 2nd year students.

Keywords: Objectively structured clinical examination (OSCE), cardiopulmonary resuscitation (CPR), effectiveness

Introduction

Background of the study

Globally, cardiac arrest causes 17.3 million deaths annually. As per World health organization statistics, mortality due to cardiac diseases has overtaken cancer mortality rates. According to American Heart Association in the US, over 359,400 persons developed cardiac arrest outside the hospitals; and around 209,000 cases were affected within the hospital. In the United States and Canada, approximately 3, 500, 00 people per year suffered a cardiac arrest and received attempted resuscitation. Cardiopulmonary resuscitation will strongly influence the survival of cardiac arrest victims.

Need for the study

Being important members of the healthcare members, nurses are deemed to possess the basic skills and expertise which are needed to perform CPR. It is documented that a timely performed CPR can largely prevent sudden death, and it is hence considered to be an important medical procedure. Many times the doctors may not be present near patient and hence the nurses are expected to provide this emergency care. To perform the procedure in meticulous manner, the nurses should be knowledgeable and they should have expertise in procedure.

Objectives of the study

1. To assess the pre interventional score of OSCE method [Objectively structured clinical examination] on CPR among B.Sc. nursing 2nd year students in Government college of nursing Ujjain (M.P.).

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- To assess the effectiveness of OSCE method on CPR among B.Sc. nursing 2nd year students in Government college of nursing, Ujjain (M.P.).
- To find out association of pre – test skill score of OSCE method on CPR with selected demographic variables.

Test –Post Test pre experimental research design. The design can be presented as:

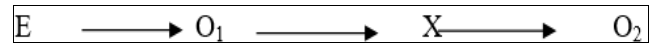


Fig 1: One Group Pre-Test, Post-Test Pre-Experimental Design

Hypotheses

- H1:** There will be a significant difference between pre-test and post-test skill, regarding cardiopulmonary resuscitation.
H2: There will be a significant association between pre-test skills with selected demographic variables.

Keys

- E - Experimental group (only one)
- O₁ - Pre – test skill score
- X - Treatment variable (demonstration on CPR by OSCE method).
- O₂ . Post - test skill score

Review of Literature

The literature review that was undertaken for the purpose of conducting this study has been presented under the following headings:

- Review related to incidence and prevalence of cardiac arrest.
- Review related to skill assessment on CPR (cardiopulmonary resuscitation).
- Review related to effectiveness of OSCE method on CPR (Cardiopulmonary resuscitation).

Total sample consisted of 40 B.Sc. Nursing Students through a Non probability Purposive sampling technique. Researcher prepared a standard checklist to evaluate the skill of CPR among B.Sc. nursing 2nd year student by OSCE method. Standard preparation for demonstration on CPR by OSCE method was done based on TNAI manual, review of literature, discussion with experts and personal experience of the research.

Research Methodology

The research design used in the study was one group Pre

Analysis and Interpretation

The present chapter is comprised of tabulated and statistically analyzed observations.

Table 1: Frequency, percentage and association between pre -test practice score and selected variables (N=40)

S. No	Selected Demographic Variables	Frequency Total	Percentage %	Pre – Test Practice Score			D.F.	X ² Value	
				≥10 Poor	10 - 18 Average	19 -24 Good			
1.	Age in Years							06	2.057 NS*
	19-21 years	10	25.0%	05	04	01			
	21-23 years	11	27.5%	06	05	00			
	23-25 years	19	47.5%	08	08	03			
	26 and above	00	0%	00	00	00			
2.	Educational Qualification							06	2.17 NS*
	Higher secondary	30	75%	10	15	05			
	Graduation	07	17.5%	03	04	00			
	Post graduate	03	7.5%	01	02	00			
	Other	00	0%	00	00	00			
3.	Previous Information Regarding CPR							01	0.12 NS*
	Yes	31	77.5%	15	16	00			
	No	09	22.5%	05	04	00			
4.	If Yes, Then Source Of Information?							08	6.55 NS*
	Books	25	62.5%	06	18	01			
	Media	08	20%	02	06	00			
	Training	00	0%	01	01	00			
	Others	05	12.5%	02	03	00			
5.	Health Status							06	19.77 S*
	Excellent	25	62.5%	02	15	08			
	Good	09	22.5%	07	02	00			
	Average	05	12.5%	02	03	00			
	Poor	01	02.5%	01	00	00			
6.	Body Types							06	0.76 NS*
	Mesomorphic	25	62.5%	12	12	01			
	Endomorphic	08	20%	04	04	00			
	Ectomorphic	05	12.5%	02	03	00			
	Others	02	05%	01	01	00			
7.	Previous Witness of CPR							01	1.205 NS*
	Present	01	2.5%	00	01	00			
	Absent	39	97.5%	14	20	00			

Table 1 shows the frequency, percentage and association between pre – test practice score of skill with demographic variables among B.Sc. nursing 2nd year students. Table reveals that age, educational qualification, previous information regarding CPR, previous witness of CPR were not significant (NS* - Not Significant) at $p>0.05$ while health status of the students (S*- Significant) significant at $p<0.05$ level.

Table 2: Pre – test skill score of the sample (N = 40)

S. No.	Score	Grading	Pre - test	
			Frequency	Percentage
1.	19 - 24	Good	03	7.5%
2.	10 - 18	Average	10	25%
3.	≥ 10	Poor	27	67.5%

This data shows that 25% of sample had average practice score ranging between 10 – 18, 67.5% sample had poor practice score ranging between ≥ 10 , and 7.5% sample had good practice score ranging between 19 - 24 regarding CPR.

Table 3: Post –test skill score of the sample (N = 40)

S. No.	Score	Grading	Post - test	
			Frequency	Percentage
1.	19 - 24	Good	16	40%
2.	10 - 18	Average	24	60%
3.	≥ 10	Poor	00	00%

This data shows that 40% of sample had good practice score ranging between 19 -24, 60% sample had average practice score ranging between 10 - 18, 00% sample had poor practice score ranging between ≥ 10 regarding CPR.

Table 4: Mean, standard deviation and ‘t’ value of pre – test and post – test practice score (N = 40)

	Mean	Standard deviation	Mean difference	‘t’ value
Pre test score	10	4.69	8.575	14.19
Post – test score	18.57	2.66		

The data presented in Table No. 04 shows that mean Post – test practice score 18.57 is apparently higher than the mean Pre – test practice score 10. The dispersion of pre – test scores (S.D. \pm 4.69) is more than that of their post – test score (S.D. \pm 2.66) and the computed ‘t’ value shows that there is a

significant difference between pre –test and post – test practice score ($t = 14.19$). This indicates that OSCE method demonstration on CPR is effective in increasing practice score among B.Sc. nursing 2nd year students.

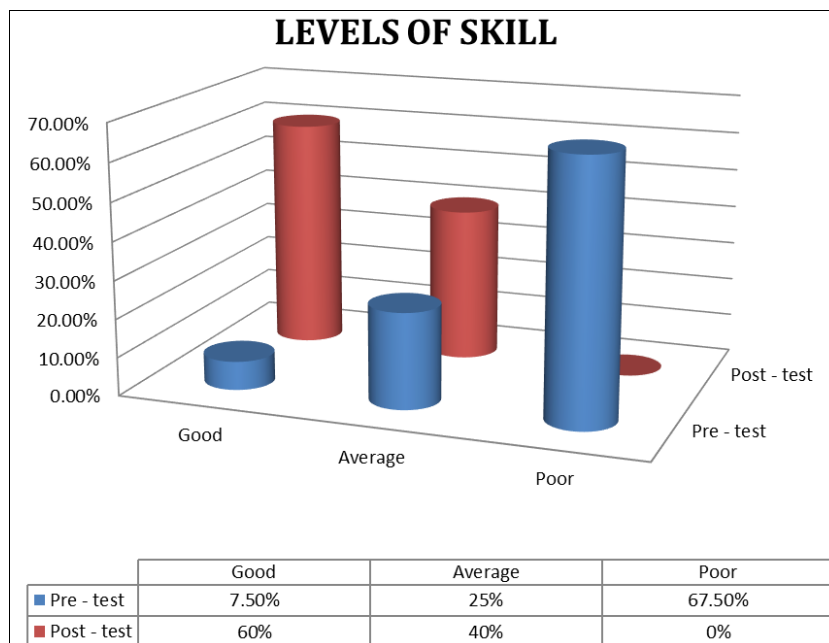


Fig 2: Bar Diagram Showing Comparison between Pre – Test and Post –Test Levels of Skill Score on CPR among B.Sc. Nursing 2nd Year Students

The data presented in the figure shows the comparison between pre-test and post-test scores of skill among B.Sc. nursing 2nd year students. In pre – test 27 samples (67.5%) had poor skill, 10(25%) of them had average skill and 03 (7.5%) had good skill. Mean score was 10 with S.D. of 4.69 and in post-test 24 samples (60%) had good skill, 16 (40%) of them had average skill. Mean score was 18.57 with S.D. of 2.66. This concluded that demonstration on cardiopulmonary resuscitation with OSCE method was effective in improving skill on cardiopulmonary resuscitation among B.Sc. nursing 2nd year students hence H1 is accepted.

Recommendations

1. A similar study may be imitated on a larger sample in order that the findings can be generalized.
2. A similar study can be undertaken to a different population in different settings.
3. A similar study can be conducted to compare different methods to teach cardiopulmonary resuscitation.
4. A similar study could be operated to evaluate attitude of the nursing students the skill on cardiopulmonary resuscitation.

Limitations**The few limitations of the study are listed below**

1. Researcher did not attempt any measure to retained skill on CPR among nursing students.
2. The investigator had no control over the events that took place between pre interventional and post interventional time of the study.

Conflict of Interest

Not available

Financial Support

Not available

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