

A Study to Assess the Effectiveness of a Training Programme on Basic Life Support among Nursing Students in Selected Nursing Colleges of Jaipur Rajasthan

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Abstract:

Introduction : Cardio Pulmonary Resuscitation and Basic Life Support are critical life-saving, first-aid skills. CPR is an emergency procedure that is conducted in an effort to physically retain integrity of brain function until additional steps can be taken to restore spontaneous blood circulation and breathing in the individual who is experiencing the cardiac arrest. It entails applying pressure to the chest and using a machine to breathe for you. When a patient's airways are kept open and breathing and circulation are supported without any additional technology, it is known as basic life support (BLS).

Methodology : A Quantitative research approach was used for the study. In this study research design one group pretest post test experimental design was used. The study was conducted in selected colleges at Jaipur Rajasthan. Random sampling Technique was used to select the study subjects. Data was collected from three nursing colleges of 250 nursing students were taken as samples by using Demographic Questionnaire and knowledge Questionnaire based on basic life support were used.

Results : The results show that the mean knowledge from post-test is higher 96.86% as compared to mean knowledge of pre-test score values by around 47.97%. The difference in the pre and post-test knowledge score with statistical p-value defines significant at 5% level ($p < 0.05$). Above table also shows that the effectiveness of PPT based video assisted training programme.

Conclusions : The significant improvement in knowledge score regarding basic life support among nursing students in selected nursing colleges of Jaipur, Rajasthan can be attributed to the awareness programme conducted between pretest and posttest knowledge assessment. Hence it can be concluded that the awareness programme was effective in improving the knowledge score of the nursing students regarding effectiveness of training programme on Basic Life Support.

Keywords : Effectiveness; cardiopulmonary resuscitation; training programme; basic life support

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How to cite this article : Soni N.K. A study to assess the effectiveness of a training programme on basic life support among nursing students in selected nursing colleges of Jaipur Rajasthan. Glob. Nurs. J. India 2023; 6: III: 578-582.

Submitted: 30/11/2023, , Accepted: 27/12/2023, Published: 12/01/2024

Introduction

Although CPR can take numerous forms, Basic Life Support (BLS) is an essential first step. Cardiopulmonary resuscitation (CPR) and, when available, defibrillation using automated external defibrillators (AEDs) are the foundation of basic life support. Sudden cardiac arrest (SCA) survivors must have effective CPR and defibrillation started as soon as possible in order to increase their chances of survival. Until they can get full medical attention in a hospital, patients with life-threatening illnesses or injuries receive basic life support (BLS), which is the lowest degree of medical treatment. It can be delivered by qualified medical workers, including emergency medical technicians, paramedics and by lay individuals who have obtained basic life support training. It is possible to give basic life support without medical equipment in situations outside of hospitals, where it is most commonly employed before patients arrive there.

Results :

Table 01 : Mean iKnowledge iScore iof iPre-itest iand iPost-itests of the basic life support regarding CPR (N=250)

	Pre test		Mean %	Post test		Mean %	t-value	DF	P-value
	Mean	SD		Mean	SD				
Basic Anatomy and Physiology of Heart	5.88	1.253	58.92	9.59	0.568	95.90	42.58	498	0.000*
Cardiac Arrest	3.92	1.046	39.28	9.77	0.463	97.75	80.79	498	0.000*
Basic Life Support regarding CPR	16.92	5.784	45.73	35.86	1.121	96.95	50.83	498	0.000*
Overall knowledge	15.45	4.231	47.97	18.41	0.716	96.86	75.67	498	0.000*

* Significant at 5% Level

The results show that the mean knowledge from post-test is higher (96.86%) as compared to mean knowledge of pre-test score values by around 47.97%. The difference in the pre and post-test knowledge score with statistical p-value defines significant at 5% level ($p < 0.05$). Above table also shows that the effectiveness of PPT based video assisted training programme. The p value showing is less than 0.05, so the enhancement of knowledge scores that can showcase a positive impact and training programme is highly effective.

Table 02 : Association between Age and Knowledge of Respondents regarding basic life support (N=250)

Age group (years)	Sample (n)	Knowledge scores (%)						P-value
		Pre-test		Post-test		Enhancement		
		Mean	SD	Mean	SD	Mean	SD	
17-19 yrs	37	36.1	11.9	96.1	11.5	58.6	13.0	0.001*
19.1-21 yrs	48	29.5	9.7	90.4	5.2	60.9	14.4	0.742#
21.1-23 yrs	62	24.1	6.3	92.7	3.6	68.6	5.5	0.067#
23.1-25 yrs	103	33.4	5.4	93.4	4.2	62.1	6.8	0.041*

* Significant at 5% level # Non-Significant

Methodology :

Research approach : A Quantitative research approach was used for the study.

Sample : Nursing students

Sample Size : The sample comprised of 250 nursing students pursuing degree studying in selected college of nursing, Jaipur.

Sampling techniques : Convenient sampling Technique was used to select the study subjects.

Setting of the study : Selected Nursing Colleges of Jaipur Rajasthan (Rawat nursing college, Superking College of nursing, Rajasthan College of Nursing)

Data Collection tools : Structured knowledge questionnaire was used to collect the information. Data was collected from 250 college students by using Demographic Questionnaire and knowledge Questionnaire based on basic life support among nursing students.

However, the enhancement was higher in the age group of 21.1-23 years (68.6%) followed by 23.1-25 years of age (62.1%), 19.1-21 years of age group is 60.9% and 17-19 years of age group enhancement score is 58.6%. It was noted that the upper age group of the nursing students better was the knowledge level.

The pre & post-test knowledge score difference were found highly statistically significant in 17.1 to 19 years and 23.1 to 25 years of age groups under the 5 percent level ($p < 0.05$). In the age group of 19.1 to 21 years and 21.1 to 23 years, there is no statistically significant difference in the pre and post-test knowledge scores between the age groups.

Table 03 : Association between Gender and Knowledge of Respondents regarding basic life support (N=250)

Gender	Sample (n)	Knowledge scores (%)						P-value
		Pre-test		Post-test		Enhancement		
		Mean	SD	Mean	SD	Mean	SD	
Male	107	36.1	3.65	86.3	9.04	49.3	4.07	0.091*
Female	143	41.2	5.14	93.1	6.41	51.9	3.61	0.726*

*Not Significant at 5% level

The pre mean knowledge score was found higher (41.2%) among the female students, followed by male students (36.1%). Further, the post means knowledge score was found higher (93.1%) among the female students with comparison to male students (86.3%). It is noted that the knowledge level of female students were better than the male students.

Further, the above table revealed that there is no statistically significant difference between the level of pre & post-test knowledge scores and gender ($P > 0.05$).

Table 04 : Association between Religion and Knowledge of Respondents regarding basic life support (N=250)

Religion	Sample (n)	Knowledge scores (%)						P-value
		Pre-test		Post-test		Enhancement		
		Mean	SD	Mean	SD	Mean	SD	
Hindu	144	42.1	4.52	97.9	8.20	56.7	4.06	0.003*
Muslim	53	22.8	8.14	89.1	5.83	66.4	7.41	1.741#
Christian	35	37.4	9.04	92.4	4.37	54.7	6.79	0.416#
Sikh	18	30.4	2.43	90.8	6.14	60.9	1.64	2.694#

* Significant at 5% level

Table 05 : Association between type of family and Knowledge of Respondents regarding basic life support (N=250)

Type of Family	Sample (n)	Knowledge scores (%)						P-value
		Pre-test		Post-test		Enhancement		
		Mean	SD	Mean	SD	Mean	SD	
Nuclear	34	44.7	9.40	91.7	2.18	46.71	4.12	2.147*
Joint	216	36.9	6.71	89.1	8.93	52.19	1.67	0.294#

* Not Significant at 5% level

Table 06 : Association between Residential Area and iKnowledge iof iRespondents iregarding ibasic ilife isupport (N=250)

Residential Area	Sample (n)	Knowledge scores (%)						P-value
		Pre-test		Post-test		Enhancement		
		Mean	SD	Mean	SD	Mean	SD	
Urban	122	33.1	10.1	91.43	6.73	58.33	6.01	0.014*
Rural	88	36.7	3.54	93.05	4.60	56.35	2.39	0.950#
Semi Urban and Rural	40	42.9	6.71	96.14	4.81	53.24	5.47	0.081#

* Significant at 5% level

Non-Significant

Table 07 : Association between Educational Status and iKnowledge iof iRespondents iregarding ibasic ilife isupport (N=250)

Educational Status	Sample (n)	Knowledge scores (%)						P-value
		Pre-test		Post-test		Enhancement		
		Mean	SD	Mean	SD	Mean	SD	
B.Sc. Nursing Part -1	39	18.4	4.13	85.39	8.14	57.60	3.94	1.041*
B.Sc. Nursing Part -2	77	25.7	6.67	89.10	5.67	63.40	1.88	0.067*
B.Sc. Nursing Part -3	104	36.1	9.19	95.61	3.19	58.51	4.94	0.691*
B.Sc. Nursing Part -4	30	44.4	3.74	96.47	7.14	51.27	4.04	0.147*

* Not Significant at 5 % Level

Further, the statistically not isignificant idifference ibetween ipre &ipost-itest iknowledge iscores and educational status of nursing students. Hence it was found that ithere iwas ino iassociation ibetween education levels of respondents with the knowledge regarding basic life support.

Table 08 : Association ibetween iFamily iIncome iand iKnowledge iof iRespondents regarding basic life support (N=250)

Family Income/ month	Sample (n)	Knowledge scores (%)						P-value
		Pre-test		Post-test		Enhancement		
		Mean	SD	Mean	SD	Mean	SD	
Less than 10,000	8	25.1	3.81	89.1	5.94	56.6	4.10	3.674#
10,001-30,000	11	30.7	7.09	92.8	5.67	62.1	9.76	0.674#
30,001-50,000	89	29.4	8.43	95.6	3.51	66.2	12.4	0.011*
50,001 and above	142	38.6	4.67	90.9	6.67	53.2	3.91	1.094#

* Significant at 5% level

Non-Significant

The pre-assessment mean knowledge score was found higher (38.6%) among more than Rs 50,000 income group, followed by Rs 10,001-30,000 income group (30.7%), Rs. 30,001-50,000 income group (29.4%) and Rs. less than 10,000 income group (25.1%). Further, the post-test mean knowledge score was found higher (95.6%) among the 30,001-50,000 income group. It was found statistically isignificant idifference ibetween ipre iand ipost iknowledge score and 30,001-50,000 level income groups.

Discussion

The nursing students were different demographic variables like age, gender, religion, type of family, residential area, educational status, income of the family, educational status of father, occupation of father, working field of father, previous knowledge and sources of information regarding cardio pulmonary resuscitation.

However in the post-test highest mean knowledge score (97.75%) was found in the aspect of cardiac arrest, followed by 96.95% of the nursing students were having knowledge regarding basic life support about cardiopulmonary resuscitation and 95.90% of the nursing students were having knowledge regarding basic anatomy and physiology of heart. After administration the PPT based video assisted training programme, the total post-test mean knowledge was found to be 96.86% among the nursing students.

The results show that the mean knowledge from post-test is higher (96.86%) as compared to mean knowledge of pre-test score values by around 47.97%. The difference in the pre and post-test knowledge score with statistical p-value defines significant at 5% level ($p < 0.05$). Above table also shows that the ineffectiveness of PPT based video assisted training programme. The p value showing is less than 0.05, so the enhancement of knowledge scores that

can showcase a positive impact and training programme is highly effective.

Conclusions

The study was concluded as it is finished that pre knowledge of nursing students regarding basic life support before administration of training programme, 47.97% (approx. 120 students) nursing students had knowledge regarding basic life support and after administration of training programme 96.86% (approx. 242 students) nursing students had knowledge regarding basic life support.

Financial Support and Sponsorship : Nil

Conflict of Interest : There are no conflicts of interest

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