Original Research Article

Effectiveness of Structured Teaching Programme on Basic Life Support among Nurses at Nepalgunj Medical College Teaching Hospital, Banke, Nepal

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ABSTRACT

Background: Cardiac arrest is an important acute emergency situation both in/out of the hospital .If early Basic life support cardio pulmonary resuscitation is instantiated, the survival rate is improved.
Objective: To evaluate the effectiveness of Structured Teaching Programme (STP) on BLS among nurses working in a Nepalgunj Medical College Teaching Hospital(NGMCTH), Nepalgunj, Banke, Nepal.
Material and method: Quasi experimental research design was used to conduct the study among the nurses of NGMCTH, Nepalgunj, Banke; 50 nurses were selected by using non probability sampling technique, a total of. (n25) control group and n-25) experimental group were selected by using simple random sampling. Structure teaching session included lecture cum discussion, demonstration and re-demonstration by trained doctors and nurses of 8hours duration. Post-test was carried out after STP. The American national Red Cross 2015 BLS guideline were used as guide for the teaching content and collected data were analyzed and interpreted by both descriptive and inferential statistics.
Result and conclusion: The result showed that the mean pretest-posttest knowledge score in experimental group was 5.84 whereas mean pretest-posttest knowledge scores in control group was 1.96 (p<0.05). Therefore, the study concluded that the mean post-test knowledge scores of nurses exposed to structured teaching programme was higher than the mean pre-test knowledge score. Hence, nurses should receive BLS training in hospitals and the training should be repeated on a regular basis. The STP on BLS that the nurses received in this study was effective and increased their knowledge level on BLS.

Keyword: Basic life support, Structured teaching program, Nurses, Nepal

INTRODUCTION

Cardiovascular diseases (CVD) are the number one cause of death globally: more people die annually from CVDs than from any other cause. An estimated 17.1 million people died from CVDs in 2004, representing 29%of all global deaths. Of these deaths, an estimated 7.2 million were due to coronary heart disease and 5.7 million were due to stroke. By 2030, almost 23.6 million people will die from CVDs, mainly from heart disease and stroke. These are projected to remain the single leading causes of death. [1]

Sudden cardiac arrest is a major public health problem. Basic Life Support (BLS) is the provision of treatment designed to maintain adequate circulation and ventilation to the patient in cardiac arrest, without the use of drugs or specialist equipment. Basic Life Support (BLS) includes recognition of signs of sudden

cardiac arrest (SCA), heart attack, stroke, and foreign-body airway obstruction (FBAO); and cardiopulmonary resuscitation (CPR). [2]

Nursing professionals are usually the first to witness a cardiac arrest at the hospital and call for assistance team. Thus, nurses need to have updated technical knowledge and practical skills developed to contribute more efficiently to cardiac arrest maneuvers. Being important members of the healthcare team, 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. To perform the procedure in a meticulous manner, nurses should be knowledgeable and they should have expertise in the procedure. [3]

In recent years, several publications have highlighted the deficiencies in CPR quality, both out-of- hospital and in-hospital in Nepal, which have partly been addressed in the newest BLS guidelines. [3] Hence this study was undertaken to evaluate the effectiveness of structured teaching programme on basic life support among nurses.

MATERIALS AND METHODS

Research approach: Quantitative approach

Research design: Quasi-experimental design was chosen for the study.

Sampling: Non Probability Purposive Sampling

Sampling size: 50 respondents were selected. 25 for control group and 25 for experimental group.

Description of the tool and technique

The self-administered semi-structure questionnaire was used to assess the effectiveness of planned teaching programme on knowledge regarding Basic Life Support among nurses of Nepalgunj Medical College, Kohalpur, Banke, Nepal. Tool was divided into two, section I & section II

Section I – Socio-Demographic data related to Nurses

Section II - Self-administered semi structured questionnaire related to BLS

Pre-test of the tool did not demand any changes. Content validity was maintained by reviewing related literature and consulting subject expert. Ethical approval was taken from Institutional ethic committee. All data were entered on database and analyzed by using Statistical Package of Social Science-20 version. Descriptive and inferential statistics were applied.

Statistical analysis

The data were analyzed through descriptive (frequency, percentage, mean, median, standard deviation) and inferential (t-test) statistics. The sample (n=50) included nurses age ranging from 18-57.

RESULTS

SECTION I: Socio-Demographic data related to Nurses

Table 1: Respondent's Socio - demographic characteristics (n = 50)

Variables	Category	Experimental group n=25		Control group n=25	
		F	%	f	%
Age	18-37	19	76	18	72
	38-57	6	24	7	28
Educational level	Staff nurse	18	72	13	52
	Bachelor in nursing/BSC nursing	7	28	12	48
Working area	Emergency	2	8	2	8
	Medical\surgical ICU	7	28	5	20
	surgery	2	8	2	8
	Labour unit	1	4	2	8
	Medicine Unit	1	4	2	8
	Neuro ICU	3	12	2	8
	Pediatric ICU	2	8	3	12
	Neonatal ICU	5	20	4	16
	Post – op care unit	2	8	3	12

Table1 shows, in experimental group, Majority (76%) of the nurses were between 18-37 years and 24% were between 38-57years. Likewise most of the nurses (72%) had nursing qualification of Proficiency Certificate Level (PCL) in Nursing. One fourth (28%) are working in Medical Surgical ICU and only few (4%) were working in Labour unit & medicine unit respectively.

In control group, Majority (72%) of the nurses were between 18-37 years and 28% were between 38-57years. Likewise most of the nurses (52%) had nursing qualification of Proficiency Certificate Level (PCL) in Nursing. Twenty percent were working in Medical Surgical ICU and only few (8%) were working in Labour unit, Surgery, Neuro ICU, Emergency & medicine unit respectively.
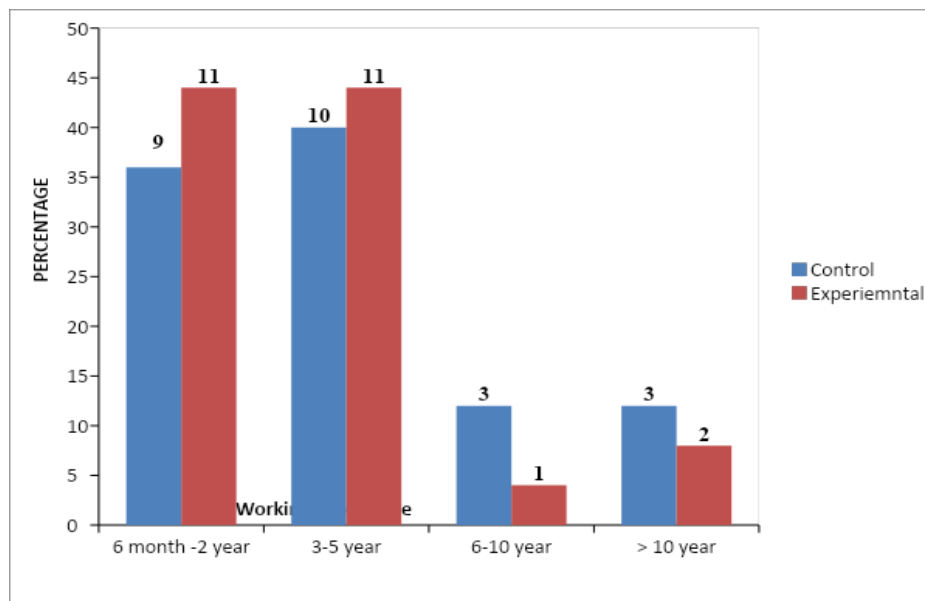

Fig: 1.1. Cylindrical diagram showing the frequency and percentage distribution of nurses according to working experience

Above cylindrical diagram depicts, in experimental group nearly half (44%) of the nurses had experience of 6months-2years & 3-5years respectively.
In control group, forty percent of the nurses had experience of 3-5years.

SECTION II: Analysis and Interpretation of BLS during pretest and posttest knowledge score on Experimental and control group

Table 2: Comparison of 't' value between the pre-test knowledge and post-test knowledge scores on experimental and control group
n=25

EXPERIMENTAL GROUP						
	Paired difference					
	Mean	SD	Df	t value	t(tab)	Significance
Total posttest- pretest knowledge	5.840	3.287	24	8.883*	2.06	Significant
CONTROL GROUP n=25						
	Paired difference					
	Mean	SD	Df	t value	t(tab)	Significance
Total posttest-pretest knowledge score	.800	2.04	24	1.960	2.06	Not significant

*Level of significance at 0.05%

Table 2 shows, in experimental group there is significant increase in posttest knowledge score at 0.05% level of significance. Thus, the research hypothesis is accepted and concluded that the structured teaching programme is effective. Whereas in control group there is no significant increase in post-test knowledge score at 0.05% level of significance.
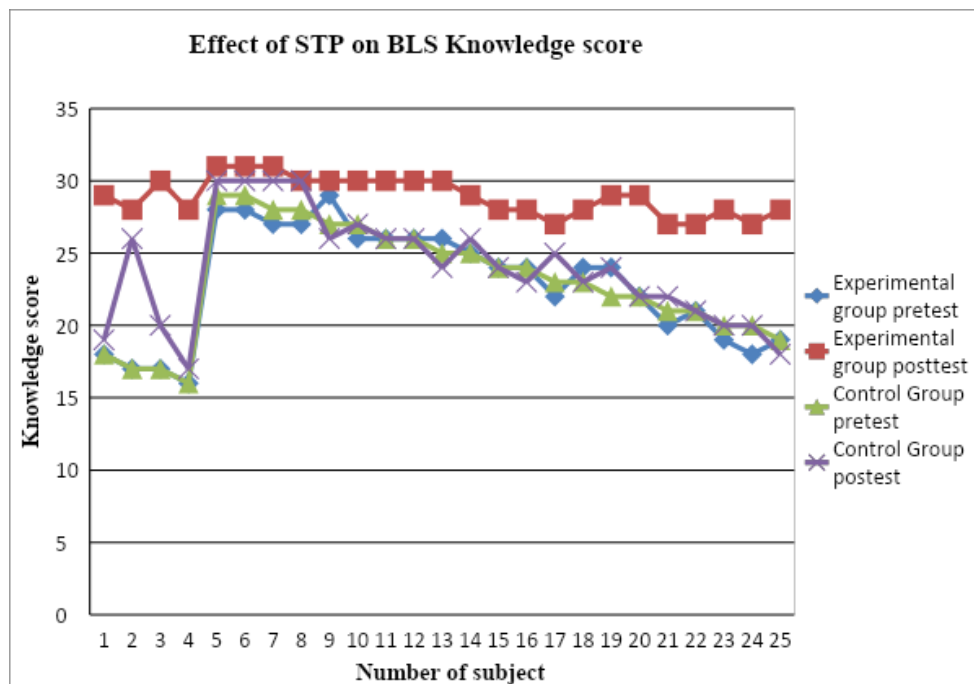
Fig 2: Line graph representing BLS knowledge score before and after STP in experimental and control group

DISCUSSION

On assessing the demographic characteristics, this study reveals that most of them (72%) of the nurses has nursing qualification of Proficiency Certificate Level (PCL) in Nursing. Whereas similar study conducted by Elazazay, Abdelazez, & Elsaie (2012) more than half of them (61.3%) had diploma level of education. [4]

The present study reveals that (44%) of the respondent's work experience was 6 months- 1year & 1-5years respectively, (28%) of them are working in ICU. Whereas similar study conducted by Bajracharya & Nagarkoti (2016) 36%of them had working experience of 5 to 10 years, 6% had working experience of 10-15 years. 30% were currently working in ICU/CCU. [5]

The result of the present study also reveals that majorities (92%) of nurses don't have any previous information or training regarding CPR, only (8%) had received training on Basic Life Support. Whereas, similar study conducted by Nagashema et al.,(2012) stated that the majority of the nurses are much interested in CPR, and most of them had received education and training in CPR as students or after the graduation. [6]

A study conducted by Kabina et al.,(2014) on evaluate the effectiveness of Planned Teaching Programme regarding Basic Life Support findings showed that the Post-test Mean (13.4) was higher than the pretest mean(9.12). [7]

As study conducted by Philip (2014) overall mean pre-test score was 18.4 which were increased in posttest to 26.8 and t-value was 20.04 which are more than table value at 0.05 level of significance. Thus it was concluded that the planned teaching was effective. [8]

A quasi-experimental study conducted by Perkins GD & Hulme J, Bion J,(2002) showed that subjects undertaking self-instruction produced significantly (P <0.05) higher ability scores than those who did not participate in retraining. The time spent in self-instruction was evaluated positively by the students. [9]

Similar study was conducted to assess the efficiency of the basic life support (BLS) training program provided for nurses in a university hospital to evaluate the efficiency of the BLS training program provided for nurses in a university hospital findings showed that there was a statistically significant difference between the nurses with previous BLS training and the

difference between their pre- and post-test results (p<0.001). [10]

CONCLUSION

Based on the findings of the present study, it can be concluded that most of the nurses have deficit in knowledge related to BLS pre teaching programme. The mean posttest knowledge scores were higher than the mean pretest knowledge scores. Thus, the training program was effective and further such programmes are recommended to be conducted periodically in hospital in enhancing the knowledge related to Basic Life Support.

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