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Effectiveness of Planned Teaching Programme on Basic Life Support in Terms of Knowledge and Skill among School Teachers in Selected Schools at North 24 Parganas, West Bengal

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ABSTRACT

A study entitled to assess the effectiveness of planned teaching programme on Basic Life Support in terms of knowledge and skill among school teachers in selected schools at North 24 Parganas, West Bengal. Objective of the study was to determine the effectiveness of planned teaching programme in terms of difference in knowledge and skill score between experimental group and control group by assessing knowledge and skill on Basic Life Support among school teachers. Investigator adopted quasi experimental approach with posttest only control group design. Data were collected with valid and reliable structured knowledge questionnaire and modified observation checklist from 40 school teachers (Experimental group -20, control group- 20), selected by convenient sampling technique. The study result showed that mean difference between posttest knowledge score of experimental group and control group was significant. The study results also revealed that mean difference between posttest skill score of experimental group and control group was significant. The finding of the study revealed knowledge "t"38 =19.07,p,0.05 and skill "t"38=36,p<0.05 of school teachers. Study has implication on clinical nursing practice and nursing research. Study can be repeated with large sample, in urban setting with other teaching strategies.

Key words: Basic Life Support, Cardiac arrest, Resuscitation

INTRODUCTION

Sudden cardiac arrest is a major diseases burden in the world. Basic Life Support 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 includes recognition of signs of sudden cardiac arrest, heart attack, stroke, and foreign-body airway obstruction and cardiopulmonary resuscitation.[1]

Basic Life Support acts to slow down the deterioration of the brain and heart until defibrillation and/or advance life support can be provided. Prompt recognition of cardiopulmonary arrest and prompt instigation of Basic Life Support can double the patient's chance of survival.[2]

The most important aspects in Basic Life Support are CAB, which is nothing but the circulation, airway and breathing.[3] Any Basic Life Support trained person can apply Cardiopulmonary resuscitation successfully to save life of victim.

The majority of patient out of-hospital cardiac arrest does not receive adequate resuscitation by health care professionals within the critical time after onset of the condition, thus reducing the chance of survival. The successful resuscitation after sudden cardiac arrest

decreased by 7%-10% with every additional minute. It is widely accepted that a well-established chain of survival based on cardiopulmonary resuscitation (CPR) plus early defibrillation with automated external defibrillators by trained non health care professional offers a survival advantage over CPR only in outpatient cardiac arrest.[4]

Cardiac arrest may happen at any place. It may happen at home, market, bus stand, station and school. Cardiac arrest happens in school due to an sport injury, chocking, drowning, accidents, fires, shock, fainting, unconsciousness, natural and manmade disaster etc. and need immediate Basic Life Support. In India there is lacking of expert in Basic Life Support in general public. If school teachers are active in performing Basic Life Support then they will be able to save colleague life and student's life [5] and can be able to give training to other school teachers and students.

Jhinuk Majumder in his article "In tragedy, a lesson learnt for school" stated that in Delhi Public School New Town ,where class VI student Aryan Dutta choked on chicken nuggets while eating a sandwich in a hurry during the afternoon break and could not saved, as there was not any expert to take a medical emergency and there was not any expert on Basic Life Support.[6]

Hence investigator felt the need and desire to carry out a study on assessing the effectiveness of planned teaching programme on basic life support in terms of knowledge and skill among school teachers in selected Government schools at North 24 Parganas, West Bengal.

METHODOLOGY

For the study Quasi experimental research approach was considered the best approach and the research design used was Posttest only control group design.

Pilot study was conducted among 10 school teachers at Mondalpara Girl's High school at North 24 Parganas after getting formal administrative permission. Final study was conducted among 40 school teachers at New Barrackpore Colony Boys Higher Secondary Government School and Madhyamgram Boys higher secondary Government School at North 24 Parganas West Bengal. In this study sample size were 40 School teachers of which 20 School teachers for experimental group and 20 School teachers for control group. Researcher adopted non –probability convenient sampling technique for selection of school teacher. Structured knowledge questionnaire developed after the vigorous review of research & non research literature in the area of BLS. A blue print was prepared specifying the content areas, domain of objectives, total no of item, maximum possible score for each response. Based on the blue print, a structured questionnaire on knowledge was developed to measure the knowledge of school teachers on BLS.

The planned teaching programme on BLS was prepared with the utmost care, maintaining the lesson plan for easy, scientific and meaningful grasping of the topic by the school teachers. Majority of the areas were projected with the help of background narration & slide show. The planned teaching programme consists of the following:

- Introduction.
- Announcement of topic.
- Meaning of cardiopulmonary arrest.
- Causes of cardiopulmonary arrest.
- Sign and symptoms of cardiac arrest.
- Management of cardio pulmonary arrest.
- Summarization.
- Conclusion.

The teachers in the experimental group were taught about following area:

- Assessment of victim for unconsciousness.
- Activate emergency response system.
- Check for pulse.
- Give high quality CPR.
- Correct compression Hand placement.
- Adequate rate.
- Adequate depth.

- Allows complete chest recoil.
- Minimize interruption

5. Reassessment.
6. Recovery position.

Final study was conducted from 19.11.2012 to 8.12.2012 at New Barrack pure Colony Boys higher secondary Govt. School for experimental group and Madhyam gram boys Higher secondary Govt. School for control group, at North 24 parganas, W.B after formal administrative approval.

For experimental group

On Day - 1

Self-introduction and establishment of rapport with the participants

Selection of subject according to inclusion criteria.

Purpose of the study was explained.

Written consent had taken from each participant.

Administration of planned teaching programme to the participants.

On Day - 7

Assessment of knowledge and skill on BLS by structured knowledge questionnaire & modified observation checklist.

For control group

Self-introduction and establishment of rapport with the participants

Selection of subject according to inclusion criteria.

Purpose of the study was explained.

Written consent had taken from each participant.

Assessment of knowledge and skill on BLS by structured knowledge questionnaire and modified observation checklist done on 7th day without giving planned teaching programme.

RESULT

Data were collected from 40 (20 from experimental group, 20 from control group) school teachers at New Barrackpore colony boys higher secondary Government school for experimental group and Madhyamgram boys higher secondary Government school for control.

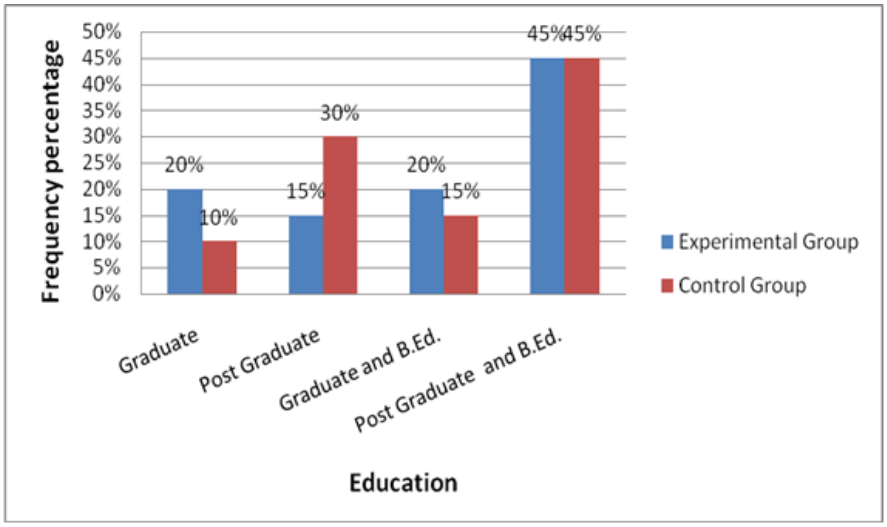
Table no -1. **Frequency and Percentage Distribution of school teachers according to their age, sex, and training on BLS.** N=40

Sl no	Characteristics		Experimental	Group n=20	Control	Group n=20
			Frequency	Percentage	Frequency	Percentage
1.	**Age in years**					
	25-35		3	15%	6	30%
	36-45		9	45%	7	35%
	46-55		6	30%	4	20%
	Above 55 years.		2	10%	3	15%
2.	**Sex**					
	Male		20	100%	18	90%
	Female		-	-	2	10%
3.	**Training on B.L.S. not attended**		20	100%	20	100%

Data presented in Table -1 showed that 9 (45%) out of 20 participants belonged to the age group 36-45 years in experimental group and 7(35%) out of 20 participants belonged to the age group of 36-45 years in control group. 2(10%) out of 20 participants belonged to the age group above 55 years in experimental group and 3(15%) out of 20 participants belonged to the age group of above 55 years in control group. 20(100%) out of 20 participants in experimental group were male and 18 (90%) out of 20 were male in control group and 20 (100%) out of 20 were not attended any type of training on BLS in experimental group. 20 (100%) out of 20 were not attended any type of training on BLS in control group respectively.

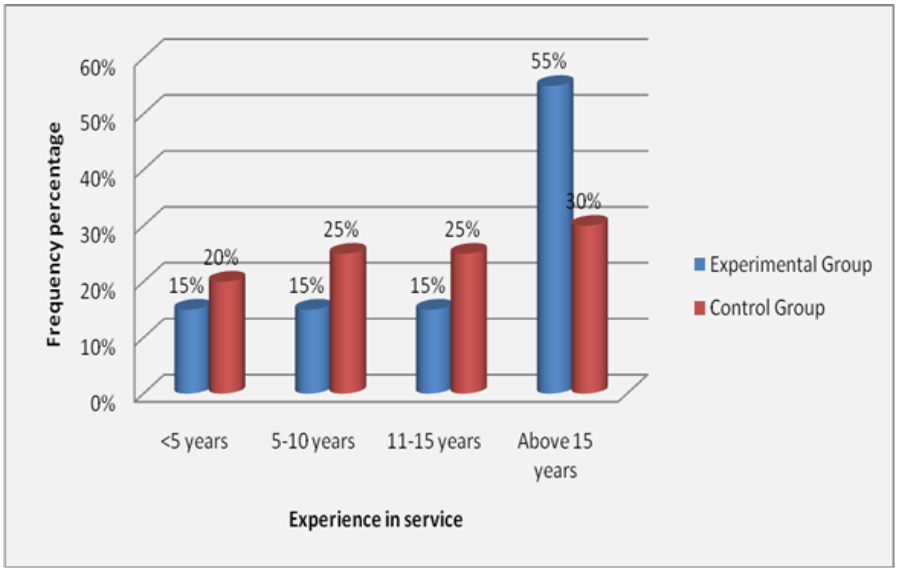
Data presented in bar graph (figure 1) showed that 9 (45%) out of 20 participants in experimental group and 9 (45%) out of 20 participants in control group were Graduate and B.Ed. Data presented that 3 (15%) out of 20 participants in experimental group were post graduate and 2 (10%) out of 20 participants

in control group were graduate respectively.



N=40, E=20, C=20

***Figure:* 1 Bar diagram showing educational qualification of school teacher in both groups**



N=40, E=20, C=20

***Figure -2 Bar* diagram showing experience in service of school teachers in both groups.**

Data presented in bar graph (figure 2) showed that 11 (55%) out of 20 participants in experimental group and 6 (30%) out of 20 participants were above 15 years of experience in service. Data showed that 3 (15%) out of 20 participants in experimental group and 4 (20%) out of 20 participants in control group were less than 5 years of experience in service respectively.

***Table No –2:* Mean, Median, Mean difference, Standard Deviation and 't' value of posttest knowledge score of both control group and experimental group.** N = 40, E=20, C=20

Sl. No	knowledge score	mean	mean difference	median	SD	$S_E M_D$	't'
1	Control group	8.1	10.3	8	2.09	.56	19.07*
2	Experimental group	18.4		18	1.46		

't' (38) =2.02, p< 0.05

The data presented in table 2 signified that the mean posttest knowledge scores after exposure of planned teaching programme of experimental group (18.4) was higher than the mean posttest knowledge score of control group(8.1) with the mean difference of 10.3 which statistically significant as evident 't' value

19.07 for df 38 at 0.05 level of significance.

The data also presented that the SD of posttest knowledge score 2.09 of control group was higher than the SD of the posttest knowledge score 1.46 of experimental group. It indicated that the posttest knowledge score of experimental groups was more homogenous in the subjects.

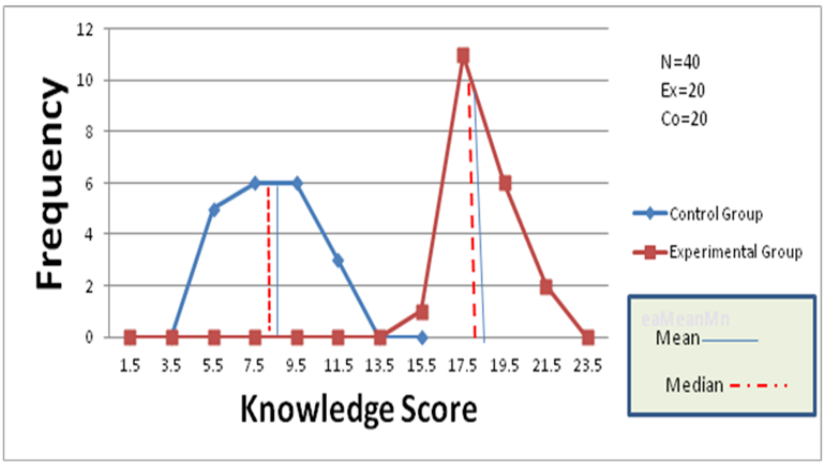


***Figure-3 Frequency* polygon showing the comparison between posttest knowledge score of Control group and experimental group For further elucidation, posttest knowledge scores were plotted in an O' give**

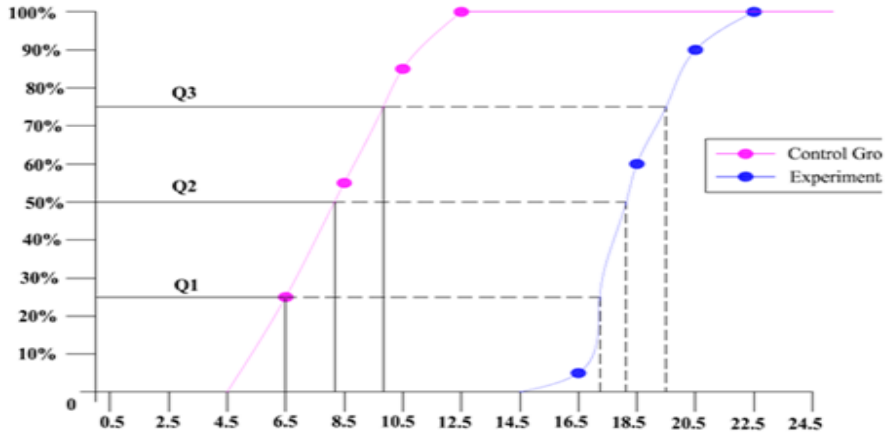


***Figure 4 Ogive* showing the comparison of posttest knowledge score between Control group and experimental group**

T*able*- 3: Mean, Median, Mean difference, Standard Deviation and 't' value of posttest skill score of both control group and experimental group N = 40

Sl No	Skill score	Mean	Mean difference	Median	SD	S_EM_D	't'
1	Control group	.75	6.55	1	.62	.18	36*
2	Experimental group	7.3		7	.59		

't' (38) =2.02, p< 0.05

The data presented in table 3 signified that the mean posttest skill scores after exposure of planned Teaching Programme of experimental group (7.3) was higher than the mean posttest skill score of control group(.75) with the mean difference of 6.55which statistically significant as evident 't' value 36 for df 38 at 0.05 level of significance .

The data also presented that the SD of posttest skill score .62 of control group was higher than the SD of the posttest skill score .59 of experimental group. It indicated that the posttest skill score of experimental groups was more homogenous in the subjects.

The data presented in the table -4 showed coefficient of correlation (r)

between posttest knowledge score with posttest skill score was .78 in experimental group which revealed that there was significant relationship as computed 't' value for df 19 is 5.1.it indicated that skill depended on knowledge and co related.

Table-4: **Relationship between posttest knowledge score and posttest skill score of school teachers in experimental group on BLS, N= 20**

Variables	Mean score	'r'	't'
Posttest knowledge score of experimental groups	18.4		
Posttest skill score of experimental groups.	7.3	.78	5.1*

't' (19) =2.093 p<0.05

Table -5: Chi-square value computed to determined association between posttest knowledge score with selected variables in experimental Group, N = 20

Sl no	Variables	Posttest knowledge score of experimental groups		Chi-square	*df*	Level of significance	Table value
		Below Median	Above Median				
1	**Age in years**						
	25-45	8	4	*.001*	*1*	0.05	3.84
	Above 46	4	4				
2	**Educational Qualification**						
	Graduate and post graduate	4	3	0.000	1	0.05	3.84
	Graduate and B. Ed Post graduate and B.Ed.	8	5				
	Experience in services						
3	< 10 years						
	>10 years	4	2	.000	1	0.05	3.84
		8	6				
	Subject specialty						
4	Literature and science	7	5	.000	1	0.05	3.84
	Social study and others.	5	3				

The data presented in table 5 showed that the calculated chi square value was found to be statistically significant at 0.05 level of significance. So there was no association between posttest knowledge score and selected variables of school teachers in experimental group.

DISCUSSION

Major Findings of the study are summarized as below:

Description of personal characteristics

- About 45% school teachers in experimental group and 35% school teachers in control group belong to the age group of 36-45 yrs.
- About 100% school teachers in experimental group and 80% school teachers in control group were male.
- About 45% school teachers are post graduate and B.Ed. in both control group and experimental group respectively.
- About 55% school teachers in experimental group and 30% school teachers in control group are above 15 years in experience in service.
- About (35 %) school teachers in experimental group and 65% in control group are science specialty.
- About 100% school teachers were not attended any training on BLS in both group experimental and control group.

Findings related to Effectiveness of planned teaching programme

The mean post-test knowledge score of experimental group was found significantly higher than the mean post-test knowledge score of control group with a 't' value of 19.07at df. 38 at 0.05 level, suggesting the effectiveness of Planned teaching programme on BLS among school teachers.

The mean post-test skill score of experimental group was found significantly higher than the mean post-test skill score of control group with a 't' value of 36 at df 38 at 0.05 level, suggesting the effectiveness of Planned Teaching Programme on BLS among school teachers.

Findings related to relationship between Post-test knowledge score and post-test skill score in experimental group : There was positive relationship between posttest knowledge score and posttest skill score with a mean knowledge score (18.4) and mean skill score (7.3), with 'r' value (0.73) which is statistically significant, as evident from 't' value (5.1).

Findings related to association between posttest knowledge score with selected factors in experimental group.

There is no association to be found between selected variables and posttest knowledge score of experimental group on BLS as obtained chi-square value are lower than table values which are not statistically significant at 0.05 level of significance.

Findings related to association between posttest skill score with selected factors in experimental group.

There is no association to be found between selected variables and posttest skill score of experimental groups on BLS as obtained chi-square value are lower than table values which are not statistically significant at 0.05 level of significance.

CONCLUSION

On the basis of the findings of the study the following conclusion are drawn: The planned teaching programme is effective to impart knowledge and skill on BLS among school teachers. There is relationship between posttest knowledge score and skill score in experimental group. There is no association between posttest knowledge score and selected variables of experimental group and there is no association between posttest skill score and selected variables of experimental group.

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