Intervention Study On Effectiveness Of Hands On Practice Of Basic Life Support Training On Knowledge, Attitude And Practices Among The Teachers Of Selected Higher Secondary Schools Of Patna, Bihar

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Abstract: Background: Cardiac arrest is a common health issue in modern days and one of the emerging health issues in present days. One-third of client required cardiopulmonary resuscitation (CPR) before reaching to the hospital. Therefore some countries have been implanted Basic life support training compulsory for teachers and students. Material And Methods: A quantitative cross-sectional pilot study was conducted among school teachers. A total of 22 participants were selected using a non-probability purposive sampling technique. An evaluated the effectiveness of basic life support (BLS) among school teachers on Knowledge, attitude, and practice. The pre-test was assessed before the intervention and the post-test assessment was assessed at the end of 5th day. Result: On assessment, the majority of participants was male (72.7%), married 16(72.7%), and aged between 20 and 30 years old 10 (45.5%). Of the 14.3% of graduates, teaching experience varied from 6 to 10 years 16 (72.7%), and the majority of them were science teachers 17 (68.2%). The majority of teachers, 17 (68.2%) were Hindu don't have previous knowledge of 17(77.3%). There was a correlation between knowledge score and gender, experience, designation, and prior knowledge. Before the intervention of basic life support training, the majority of participants had poor knowledge12 (56.6%), post-test improved good knowledge 20(90.9%). Similarly, in the pretest, most of the participants had a negative attitude 16(72.7%), and a few after BLS showed a positive attitude 20(90.9%). Pretest practice skills had inadequate 17 (77.3%), moderate knowledge 5(22.7%), after the intervention, most of them 20(90.9%) had good knowledge. Conclusion: Basic life support (BLS) is the most effective intervention for school teachers. Most of the school teachers improved the knowledge, attitude and practice after the intervention. [Jain H Natl J Integr Res Med, 2023; 14(1): 11-15, Published on Dated: 20/01/2023]

Key Words: Knowledge, Attitude, Practice, Basic Life Support (BLS), School Teacher

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Introduction: The cardiac arrest major health issue in modern days and one of emerging health issue in present days. One third of client required cardio pulmonary resuscitation (CPR) before reach to hospital. Therefore some countries have been implanted Basic life support training compulsory for teacher and students[1]. Advance cardiac life support for cardiac arrest care initiated at beginning of 197.There were studies published since past decades proved consistent improvement in advanced care in post cardiac arrest[2]. Despite teaching CPR regular intervals and advanced technique improved the survival rate post cardiac arrest especially during COVID pandemic[3,4].

Children frequently required emergency assistance, particularly in remote areas. Where there is no immediate medical care. There were still unanswered questions such as when basic BLS should be considered and how a school teacher should handle a cardiopulmonary arrest. Another controversial aspect is who will teach teachers about BLS[5].

There are currently no definite norms or required BSL training for school employees and students. Schools are the best places to teach BLS, and in order to assess the effectiveness, equality, and quality of teaching and learning, it is important to gauge teacher performance and skill development. This study sought to gauge how well the basic life support training programme was working with school instructors.

Material & Methods: This pilot study was conducted in a few selected schools in Patna, Bihar state, India. Participants for this study hired after receiving written approval from the relevant educational authorities. A purposive sampling technique was used in this study's one-group pre-test-post design was adopted. The samples for

this study consisted of a total of 22 teachers who work in various schools in Patna, Bihar. The participants were chosen after meeting the sample requirements criteria, which included those who worked in various government or private high schools and were available and willing to participate at the time of data collection.

The data was gathered after receiving formal written consent and distributing participant information sheets to each subject. The information was gathered from February 2022 to May 2022. The data collection tools were validated, and 10% of the population was used to test their reliability. Before the primary investigation, the disagreement was settled. Four instruments were utilized to get the data. The first tool comprises teachers' demographic information. The second tool consists of 30 items of structured knowledge quizzes, Likert scales, and practice questions that evaluate physical and psychomotor skills.

Results: It is as follows.

Table 1: Details Of Sample Characteristics And Association With Pretest Knowledge N=22

S. No	Variables	Categories	frequency	Percentage	Mean &SD	Knowledge			Chi square	Significance (p=0.05)
						GK	MK	PK		
1	Age in years	20-30	10	45.5	1.81±0.90	0	2	7	5.59	.47
		31-40	7	31.8		1	3	3		
		41-50	4	18.2		1	1	2		
		51-60	1	4.5		0	1	0		
2	Gender	Male	16	72.7	1.27±0.45	2	4	9	6.45	0.05
		Female	6	27.3		0	3	3		
3	Qualification	Graduation	7	31.8	2.7±.55	1	1	4	2.25	.668
		Post-Graduation	14	63.6		1	6	7		
		PhD	1	4.5		0	0	1		
4	Experience in year	1-5	1	4.5	2.31±0.77	0	1	0	13.64	0.05
		6-10	16	72.7		1	3	11		
		11-15	2	9.1		1	1	0		
		>15	3	13.6		0	2	1		
5	Religion	Hindu	17	68.2	1.31±0.64	0	6	10	9.95	.12
		Muslim	3	9.1		2	0	1		
		Christian	2	22.7		0	7	12		
6	Designation	Science teacher	15	68.2	1.54±0.85	2	5	7	13.45	0.05
		Moths teacher	2	9.1		0	0	2		
		Physical teacher	5	22.7		0	2	3		
7	Residence	Rural	6	27.3	1.27±0.45	1	6	8	1.28	.52
		Urban	16	72.7		1		4		
8	Marital status	Unmarried	5	22.7	1.81±0.50	0	3	2	5.06	.28
		Married	16	72.7		2	3	10		
		Widow	1	4.5		0	1	0		
9	Type of family	Nuclear	6	27.3	1.72±0.45	0	1	4	1.57	.45
		Joint	16	72.7		2	6	8		
10	Previous knowledge	Yes	5	22.7	2.4±0.89	5	0	0	6.83	0.05
		No	17	77.3		0	0	17		
11	If yes	Book	1	4.5		1	0	0		
		Media	1	4.5		1	0	0		

According to an analysis of the demographic variables of school instructors, the majority of them were male age 16 (72.7%), married 16(72.7%), and aged between 20 and 30 years old 10 (45.5%). The 14.3% of graduates, Instructors' experience varied from 6 to 10 years 16 (72.7%), and the majority of them were science teachers 17 (68.2%). The majority of instructors, 17 (68.2%), are Hindus and live in metropolitan areas, 16 (72.7%).The most of participants don't have previous knowledge 17(77.3%) and obtained books,tv and friends 5(22.7%). [Table-1]

Table 2: Effectiveness Of Basic Life Support (BLS) On Knowledge Among School Teacher N=22

Name Of Variable	Pretest Knowledge			Post Knowledge			Mean Difference	Paired T Test	Sign Diff
	Frequency	%	Mean &SD	Frequency	%	Mean &SD			
Good Knowledge	3	13.6	2.47±0.67	20	90.9	1,09±0.30	1.38	9.44	0.00

The association between pre-test knowledge and demographic characteristics determined using chi square test. There was a correlation between knowledge score and gender, experience, designation, and prior knowledge. However, factors like age, education, religion, place of residence, marital status, type of family, and prior knowledge were not shown to be significantly different.9.44. at p=0.00. Before the intervention of basic life support training, the majority of participants had poor knowledge12 (56.6%), moderate knowledge7 (31.8%), and good knowledge3 (13.6%). After the intervention, the majority of the subjects 20(90.9%) had good knowledge, with the mean difference between pre and post intervention being 1.38. The significance of the parire t test indicates that basic life support training is most favourable and likely to be implemented to be a school teacher. [Table-2].

Table 3: Effectiveness Of Basic Life Support (BLS) On Attitude Among School Teacher N=22

Name Of Variable	Pretest Attitude			Post Attitude			Mean Difference	Paired T Test	Sign Diff
	Frequency	%	Mean &SD	Frequency	%	Mean &SD			
Positive Attitude	6	27.7	1.71±0.46	20	90.9	1,0±0.0	0.71	20	0.00
Negative Attitude	16	72.7		2	9.1				

The attitude of school teachers on basic life support was negative attitude 16(72.7%) and few of had positive attitude 6(27.7%) mean and standard deviation 1.71±0.46 respectively. After intervention of basic life support training, the majority of participants had positive attitude 20(90.9%) towards on basic life support, with the mean difference between pre and post intervention being 0.71. The significance of the parire t test 20 indicates that basic life support training is most favorable and likely to be implemented to be a school teacher. [Table-3]

Table 4: Effectiveness Of Basic Life Support (BLS) On Practice Among School Teacher N=22

Name Of Variable	Pretest Practice			Post Practice			Mean Difference	Paired T Test	Sign Diff
	Frequency	%	Mean &SD	Frequency	%	Mean &SD			
Adequate Practice	0	0	2.80±0.40	20	90.9	1.0±0.00	1.8	20.6	0.00
Moderate Practice	5	22.7		2	9.1				
Inadequate Practice	17	77.3		0	0				

Similarly the practice skills of school teachers on basic life support of participants had inadequate 17 (77.3%), moderate knowledge5 (22.7%), mean and standard deviation after the intervention, the majority of the subjects 20(90.9%) had good knowledge, with the mean difference between pre and post intervention being 1.38. The significance of the paired t test indicates that basic life support training is most favourable and likely to be implemented to be a school teacher. [Table-4].

Discussion: A good basic life support (BLS) knowledge and skills are required for a school teacher. There are numerous reasons why teachers are unable to provide BLS, including outdated skills and knowledge. As a result, this study was conducted to determine existing knowledge, attitudes, and practice skills about BLR, as well as to develop a teaching module on basic life support among school teachers.

The summary of the study revealed that the participants had poor knowledge12 (56.6%),, attitude16 (72.7%) and inadequate skills 17 (77.3%), on BLS. Most of the teachers had previous knowledge but they are difficult to retention of their knowledge and practice skills[6,7,8].

This study found that demographic variables of school teachers like gender, experience, designation, and prior knowledge were found the a associated with pre-intervention knowledge of basic life support. According to evidence after stopping heart beats without damage nerves there is high chance for survive. Therefore BLS knowledge and skills of teachers are most important factor that reduced the mortality among school children[9,10].

The main finding of our study summarized that BLS teaching training is an effective intervention in school teachers' knowledge, attitudes, and skills. Approximately 90% of participants had poor knowledge, a lack of attitude, and inadequate skills. However, after intervention, most of the subjects had gained knowledge of 20(90.9%), positive attitude of 20 (90.9%).

A similar study was conducted among the school teachers and found that most teachers interested in BLS training wanted programmes (64.9%) and were willing to take a free course (78.4%) in Saudi Arabia[11,12].

The majority of educators or institutions lack the tools necessary to teach BLS. Therefore, administration needs to be updated and compliant with the BLS training programme for school teachers[13,14].

Conclusion: Basic life support (BLS) training was found to significantly improve knowledge, attitude, and practice skills. Teachers in the post-intervention group have a large influence on their confidence and skills in BLS. Current study review indicates that there appears to be an insufficient learning resource available in schools in terms of practice skills and BLS manikins. Furthermore, a continuous supply of instructional materials and training from medical experts is recommended on a timely basis.

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