



EFFECTIVENESS OF BASIC LIFE SUPPORT TRAINING AMONG ADULTS CARDIO PULMONARY RESUSCITATION IN SELECTED RURAL COMMUNITY AREA BENGALURU.

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ABSTRACT

Cardiac arrest that occurs outside of a hospital is a serious problem for the health of people living in those areas, particularly in rural areas that are farther from medical facilities. The purpose of this study was to ascertain how basic CPR instruction affected people performance and knowledge in rural locations. The results of this study demonstrated that prior to the intervention, people's performance and knowledge of basic CPR were poor, which is a significant problem. The Quasi-experimental study was conducted on 60 samples from rural area of Adisenahatti and Jaibheemnagar village in Bengaluru. The samples were selected using random sampling method. The data was collected using a demographic information, knowledge questionnaire, and an observational checklist of CPR performance by American heart Association. The study results revealed that there was increase in knowledge on CPR and the mean score of performance was significantly greater after the intervention. According to the study findings, the villager's performance and knowledge was enhanced by teaching CPR techniques.

INTRODUCTION

In the earlier era, the people used to follow a very active lifestyle adding to which they also followed a balanced diet, adequate sleep and less stressful life, contrary to which in the 21st century the people follow a sedentary lifestyle, high fat and cholesterol diet. In addition they also end up having less sleep and a stressful life along with various types of addictions to alcohol, drugs, and cigarette. All these has lead to various communicable and non- communicable disorders. Globally, cardiovascular diseases (CVDs) are the primary cause of death. 32% of all fatalities worldwide in 2019 were attributed to CVDs, with an anticipated 17.9 million deaths.[1] Out-of-hospital cardiac arrest is a critical global health issue that leads to a large number of deaths across the world.[2] Unfortunately, a large proportion of these events arise within community settings, particularly in private residences, and often involve individuals without a prior diagnosis of cardiac disease.[3] Sudden cardiac death (SCD) often represents the initial indication of underlying cardiovascular disorders and accounts for nearly half of all

deaths related to cardiovascular disease. Its incidence increases substantially with advancing age, and men consistently demonstrate a higher risk compared to women of similar age groups. Although uncommon in infancy, the annual incidence of SCD escalates significantly, reaching nearly 200 per 100,000 person-years by the eighth decade of life. In high-income countries, more than 75% of SCD cases are attributed to coronary artery disease (CAD), and the burden of CAD has continued to rise over recent decades.[4] During a sudden cardiac arrest, the individual most commonly present at the scene is a bystander, preceding the arrival of paramedics and other healthcare providers. Evidence indicates that bystander-performed cardiopulmonary resuscitation (CPR) can increase survival rates in out-of-hospital cardiac arrest (OHCA) by at least twofold. Strengthening community knowledge and competency in basic life support (BLS) and CPR facilitates timely intervention within the critical 'Golden Hour,' thereby enhancing patient outcomes. Early recognition of cardiac arrest is crucial, as it enables the rapid initiation of BLS

measures that can significantly reduce mortality. Although overall OHCA survival rates remain relatively low (3%–30%), they have shown improvement in conjunction with expanded public education and greater accessibility to automated external defibrillators. [5]

NEED FOR THE STUDY

Medical emergencies can occur both within hospitals and in community settings. Out-of-hospital cardiac arrest, particularly in remote areas with limited access to medical services, poses a significant threat to community health. Therefore, ensuring that residents in these regions are equipped with adequate CPR skills is vital for minimizing fatalities and enhancing the chances of survival. [6] Cardiopulmonary resuscitation (CPR) is a critical emergency intervention that markedly improves survival during cardiac events. However, despite its proven effectiveness, CPR awareness and competency remain insufficient, particularly in rural areas where timely medical support is often unavailable. Global data indicate that only about 2.5% of the population is trained in CPR, with even lower rates reported in India; in Karnataka, the prevalence is approximately 1.5%. This gap highlights an urgent need for focused educational programs aimed at strengthening life-saving skills among rural communities.

Existing literature demonstrates a strong association between CPR training and enhanced bystander intervention during emergencies. Nonetheless, factors such as limited awareness, cultural misconceptions, and inadequate training opportunities continue to hinder progress, especially in underserved regions. In light of these challenges, the present study aims to assess CPR knowledge among rural adults of Adisenahatti and Jaibheem nagara village in Bangalore.[7]

An article published in The Indian Express on May 29, 2023, highlights that many individuals ignore medical warnings and neglect symptoms, resulting in more than half of heart attack deaths occurring before medical care is received. Enhancing public awareness of the signs and symptoms of cardiac arrest, along with the appropriate actions required during these critical moments, can help save lives and significantly improve survival rates.

OBJECTIVES OF THE STUDY

- To assess knowledge regarding CPR among the adults.
- To provide BLS training to the adults regarding CPR.
- To examine relationship between knowledge of BLS and it's practical effectiveness among adults.

HYPOTHESIS

H1: There is statistically significant difference between the pre-test and post test scores of adults who undergo BLS-CPR training.

H2: There is a significant association between the BLS-CPR training with selected socio-demographic variables.

RESEARCH METHODOLOGY

Research Design: Quasi experimental one group pretest posttest design is adopted for present study.

SOURCES OF THE DATA

Research setting:

The study was conducted in rural community area at Adisenahatti village and Jaibheemnagar Village.

Sample:

All the adults of Adisenahatti and Jaibheemnagar Village (18-45years)

Sampling Technique:

Random sampling technique is adopted to select the samples.

. Sample size: total of 60 samples (adults from 18-45 years)

Sampling criteria:

Inclusion criteria:

Samples willing to participate in the research study.

Exclusion criteria:

Those who were not available during data collection.

Source of data:

Data was collected from the adults(18-45)of the both Adisenahatti and Jaibheemnagar Village.

Data collection tool:

Checklist For CPR (American heart association).

Questionnaires

Section 1 : Demographic variables

Section 2 :pre test questionnaires (American heart association)

The study employed a structured data collection tool consisting of two major sections.

Section I focused on demographic variables to obtain essential baseline information about the participants, including age, gender, educational qualification, occupation, and previous exposure to CPR training.

Section II comprised a pre-test questionnaire developed in accordance with the American Heart Association (AHA) guidelines on cardiopulmonary resuscitation (CPR). This section was designed to assess the participants' existing knowledge, skills, and preparedness related to CPR prior to the implementation of the intervention. The use of this standardized checklist and questionnaire framework ensured systematic evaluation and facilitated accurate measurement of baseline CPR competency among the study subjects.

Results and Interpretation:

Section 1: Demographic variables

Table 1.1: Frequency and percentage distribution of selected socio-demographic variables

Sl No	Demographic variables	Category	Frequency	Percentage
1	Age	a)18-24 years	9	15%
		b)25-31 years	15	25%
		c)32-38 years	13	21.67%
		d)39-45 years	23	38.33%
2	Gender	a) Male	12	20%
		b) Female	48	100%
3	Religion	a) Hindu	58	96.67%
		b) Muslim	2	3.33%
		c)Christian	0	0
		d)Others	0	0
4	Marital status	a) Married	56	93.33%
		b) Unmarried	4	6.67%
5	Education	a)No formal education	5	8.33%
		b) Primary education	22	36.67%
		c)Higher secondary	25	41.67%
		d)UG	8	13.33%
		e) PG	0	0
		f) Others	0	0
6	Occupation	a) Unemployed	2	3.33%
		b) Farmer	0	0
		c)Laborer	11	18.33%
		d) Business	8	13.33%
		e) Government employee	0	0
		f) Private employee	8	13.33%
		g) Home maker	31	51.67%
7	Type of family	a) Nuclear family	45	75%
		b) Joint family	15	25%
8	Income of family	a) Below 10000	7	11.67%
		b)10001-15000	11	18.33%
		c)15001-20000	11	18.33%
		d)More than 20000	31	51.67%
9	Previous knowledge onCPR	a)Yes	19	31.67%
		b) No	41	68.33%
10	Source of previous knowledge	a) School/college/social media	10	16.67%
		b)Work place/training/friends/family	2	3.33%
		c)Television/radio/community health programs	7	11.67%
		d)None	41	68.33%

Fig 1.1 Pre-test score of previous knowledge regarding CPR

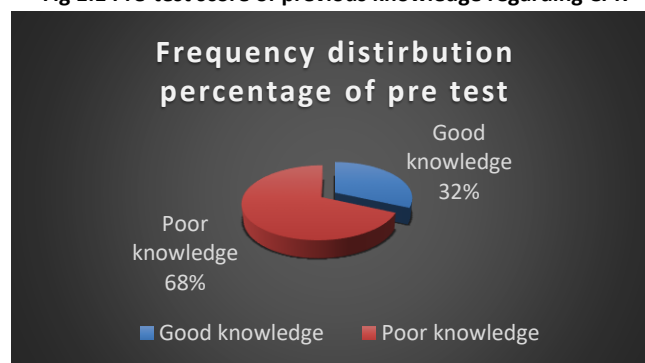


Fig1.1: Shows that the majority (68%) of adults have poor knowledge regarding CPR

Fig1.2: Post test score of knowledge regarding CPR

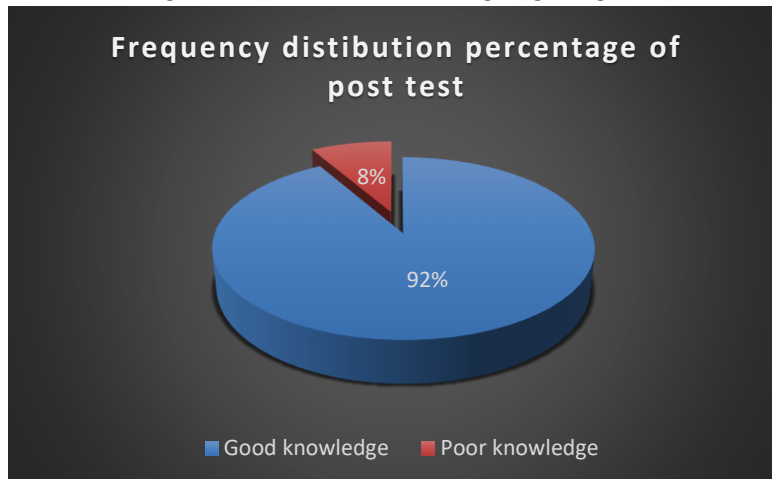


Fig1.2: Shows that the majority (92%) of adults gained a good knowledge regarding CPR, whereas 8% of the adults have poor knowledge regarding CPR.

Table 1.2: Effectiveness of BLS in teaching CPR

SL no	Test	Mean value	Mean difference	SD	Paired t-test	Df	Level of significance (0.05)
1	Pre-test	3.85	-3.86	1.42	14.19	59	0.000 *S
2	Post-test	7.71		1.51			

Table1.2: depicts that the paired samples t-test revealed a statistically significant improvement in the knowledge of adults regarding BLS-CPR.

TABLE 1.3: Association of pre-test level of knowledge regarding CPR among the adults with their selected demographic variables

SL No	Demographic variables	Category	Respondents		Chi-square value
			<4	>4	
1	Age	a)18-24 years	2	7	2.62 NS
		b)25-31 years	3	12	
		c)32-38 years	6	7	
		d)39-45 years	8	15	
2	Gender	a)Male	7	6	3.77 NS
		b)Female	12	35	
3	Religion	a)Hindu	18	40	0.289 NS
		b)Muslim	1	1	
		c)Christian	0	0	
		d)Others	0	0	
4	Marital status	a)Married	18	38	0.064 NS
		b) Unmarried	1	3	
5	Education	a)No formal education	2	3	7.72 NS
		b) Primary education	5	17	
		c)Higher secondary	12	13	
		d)UG	0	8	
		e)PG	0	0	
		g)Others	0	0	
		a)Unemployed	1	1	
		b) Farmer	0	0	
		c) Labourer	8	3	

6	Occupation	d) Buisness	0	8	27.03 S*
		e) Government employee	1	0	
		f) Private employee	10	7	
		g) Home maker	0	21	
7	Type of family	a)Nuclear family	19	26	6.399 S*
		b) Joint family	1	14	
8	Income of family	a)Below 10000	3	4	17.778 S*
		b)10001-15000	9	2	
		c)15001-20000	4	7	
		d)More than 20000	4	27	

Table1.3: presents the results of a statistical analysis indicating a significant association between the BLS-CPR training and along with occupation, type of family, and income of family ($p < 0.05$)

DISCUSSION:

The analysis demonstrated that among the 60 participants from the rural areas of Adisenahatti and Jaibheem Nagar, 92% exhibited adequate CPR knowledge in the post-test, whereas 8% continued to show inadequate knowledge. In contrast, the pre-test results indicated that 68% of participants had poor knowledge and only 32% possessed good knowledge of CPR, with a mean score of 3.85 and a standard deviation of 1.42.

Following the educational intervention, substantial improvement was observed, with the post-test mean score increasing to 7.71 (SD = 1.51), and 92% of participants demonstrating good knowledge. The overall mean difference in memory retention was -3.86, and the paired t-test value of 14.19 indicated a statistically significant enhancement in post-test performance at the 0.05 level ($p = 0.000$). Accordingly, the research hypothesis (H_1) was accepted.

CONCLUSION:

The results of this study demonstrated that prior to the intervention, people's performance and knowledge of basic CPR were poor, which is a significant problem. The results showed that the basic CPR instruction program might enhance the villagers' performance and knowledge and be useful in the rural areas' cultural environment.

Therefore, it is advised to use similar teaching techniques to improve villagers' performance and knowledge. Additionally, appropriate teaching strategies should be

researched in order to strengthen learned performance and knowledge and keep it from being forgotten over time.

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