



A study to assess the effectiveness of structured teaching programme on knowledge regarding cardio pulmonary resuscitation among Asha workers in a selected rural area of Hubali-Dharwad

¹Mulla Mustak Appasab, ²Awathare Swati, ³Rhoda Jesuraj and ⁴Pallavi Naik

¹Shreeya College of Nursing, Opp. District Court, P.B. Road, Dharwad, Karnataka, India

² Professor and HOD, Department of MSN, Shreeya College of Nursing, Opp. District Court, P.B. Road, Dharwad, Karnataka, India

³ Principal and HOD, Department of OBG, Shreeya College of Nursing, Opp. District Court, P.B. Road, Dharwad, Karnataka, India

⁴ Assistant Professor Department of MSN, Shreeya College of Nursing, Opp. District Court, P.B. Road, Dharwad, Karnataka, India

Corresponding Author: Mulla Mustak Appasab

DOI: <https://doi.org/10.33545/nursing.2025.v8.i1.B.454>

Abstract

Background: CPR is a rescue procedure to be used when the heart and lungs have stopped working. There is a wide variation in the reported incidence and outcome for out of here due to definition and ascertainment of cardiac arrest as well as differences in treatment after its onset. Hospital cardiac arrest these differences in treatment after its onset.

Several authors described the problem of poor performance in CPR, even when provided by medical professionals. Numerous investigations have reported the problem of poor skills retention after various CPR courses. Studies reporting the need for improvement of resuscitation techniques led to the recent changes in BLS and ALS algorithms.

Method: An evaluative approach with pre-experimental one group pre-test post-test design was used with Purposive sampling technique to select the sample (n=60). A structured knowledge questionnaire on cardiopulmonary resuscitation was used and STP was administered to find its effectiveness. The collected data was analyzed by using descriptive & inferential statistics.

Result: The mean percentage of post-test knowledge score (27.4333%) was higher than the mean percentage of pre-test knowledge score (24.0167%). The calculated value is 't'-10.560 for knowledge respectively. It shows a significant difference between mean pretest and post-test knowledge scores. There was significant association found between Age & Religion with posttest knowledge score. A significant association between other socio demographic variables and post-test knowledge scores.

Conclusion: The finding of the study shows a deficit in knowledge of ASHA workers before administration of STP. The results indicated that the structured teaching programme was effective in increasing the knowledge of ASHA workers regarding cardio pulmonary resuscitation.

Keywords: Effectiveness, structured teaching programme, knowledge, CPR, ASHA workers

Introduction

CPR is a rescue procedure to be used when the heart and lungs have stopped working. There is a wide variation in the reported incidence and outcome for out of here due to definition and ascertainment of cardiac arrest as well as differences in treatment after its onset. 4 Hospital cardiac arrest [7].

These differences in treatment after its onset. Several authors described the problem of poor performance in CPR, even when provided by medical professionals. Numerous investigations have reported the problem of poor skills retention after various CPR courses. Studies reporting the need for improvement of resuscitation techniques led to the recent changes in BLS and ALS algorithms.

Dangers of Sudden Cardiac Arrests (SCA) that can lead to death of an individual within a few minutes. A s per WHO

census statistics mortality due to cardiac arrest approximately 4280 out of every one lakh people die every year from SCA in India alone. After a cardiac arrest there are four to six minutes before brain death and death occur. Chances of survival reduce by 7-10 percent with every passing minute. It is a silent epidemic. Cardiac arrest is reversible if the victim is administered prompt and appropriate emergency care. This generally involves administration of cardiopulmonary resuscitation (CPR), shock treatment to the chest to reset the heart's rhythm (Defibrillation) and advanced life support.

Methods

An evaluative approach with pre-experimental one group pre-test post-test design was used with Purposive sampling technique to select the sample (n=60). A structured knowledge questionnaire on cardiopulmonary resuscitation

was used and STP was administered to find its effectiveness. The collected data was analyzed by using descriptive & inferential statistics.

The reliability of the tool is computed by using simplified Split Half Karl Pearson’s correlation formula (Raw score method). The reliability co-efficient of half test (r1/2) is found to be 0.46 There liability of the tool is computed by using $r1 = 2r1/2/1+r1/2$ and is found to be 0.90.

The pilot study was conducted from 04/04/2022 to 09/04/2022. Participants were informed about the purpose of the study. The pre-test was conducted by using structured knowledge questionnaire and Structured Teaching Programme was conducted on asha workers regarding cardio pulmonary resuscitation. on same day. On 7th day, post-test was conducted with same structured questionnaire.

The main study was conducted for a period of 4 weeks from 18/04/2022 to 31/05/2022 at rural areas of Primary Health Center Kotur, Hubli-Dharwad.

Method of data analysis

Method of data analysis states that data analysis is the systematic organization and synthesis of research data and testing the research hypothesis using these data.

The data was analyzed in terms of objectives of the study. The plan for data analysis is as follows;

1. Descriptive statistics.
2. Inferential statistics

Descriptive analysis: Describes the nature of an object or phenomenon under study. This analysis provides us with profiles of organization, work groups, persons and other subjects on any of a multitude of characteristics such as size, composition, efficiency, preferences etc.

Descriptive analysis used in this study was

1. Frequency
2. Percentage
3. Mean
4. Standard deviation

Inferential statistics

Inferential analysis is concerned with drawing inferences and conclusions from the findings of a study.

1. Paired’t’ test is used to assess the effectiveness of structure teaching Programme.
2. Chi square test is used to find the association between posttest knowledge score and socio demographic variables.

Organization and Presentation of data

The data was entered in a master sheet for tabulation and statistical processing. In order to find the relationship, the data was tabulated, analyzed and interpreted by using descriptive and inferential statistics. The data is presented under the following headings.

Section – I: Distribution of demographic variables of the participants.

Section – II: Distribution of statistical value of pre-test and post-test knowledge score among ASHA Workers.

Section III: Comparison of statistical value of pre-test and post-test practice score among ASHA Workers.

Section – IV: Description about the correlation between pretest knowledge regarding cardio pulmonary resuscitation among ASHA Work.

Association between Demographic variables and Pre-test Knowledge Score on cardio pulmonary resuscitation

This area consists of data related to demographic variables that are Age, Residential area, marital status, Religion, Type of family, Educational Qualification, Previous knowledge about CPR, Languages understood and Any CPR training.

The Hypothesis was stated as follows

H2: There will be a significant association between selected socio demographic variables with pre-test level of knowledge regarding cardio pulmonary resuscitation. In order to determine the significance of association between the level of knowledge after the administration of Structure teaching Programme and the selected demographic variables, x 2 were computed from the available data.

Depicts the association between post-test knowledge score and the demographic variables among the ASHA workers. It reveals that there had been no significant association between the age, religion, level of education, source of health information and previous experience regarding CPR and the knowledge level among the ASHA workers. It also reveals that there was a significant association between locality and the knowledge scores gained in the post-test. It shows that their dwelling place either urban or rural it is necessary to provide first aid at right times to save the lives of the victims.

Section A: socio demographic variables Frequency and percentage distribution of subjects

Table 1: Frequency and percentage distribution of subjects with regard to socio-demographic variables (Age and Gender, Religion and marital status) n=60

Sl. No	Socio- demographic variables	Frequency (f)	Percentage (%)
1	Age (Years)		
	a) 21-25	37	61.7
	b) 26-30	20	33.3
	c) 31-35	3	5.0
2	Religion		
	a) Hindu	29	48.3
	b) Muslim	26	43.3
	c) Christian	5	8.3
3	Marital Status		
	a) Married	26	43.3
	b) Unmarried	34	56.7

Table 2: Frequency and percentage distribution of subjects with regard to socio- demographic variables (Type of residential area Type of family Educational qualification Previous knowledge about CPR Languages understood and Any CPR training) n =60

SI. No	Socio- demographic variables	Frequency (f)	Percentage (%)
4	Type of residential area		
	Urban	30	50.0
	Rural	30	50.0
5	Type of family		
	Joint	23	38.3
	Nuclear	37	61.7
6	Educational qualification of		Participants
	SSLC	36	60.0
	PUC	20	33.3
	Degree	4	6.7
7	Previous knowledge about CPR		
	Yes	60	100
	No		
8	Professional experience in years		
	1-10	31	51.7
	11-20	29	48.3
9	Languages understood		
	Kannada	60	100.0
	English		
	Hindi		
	Others		
10	Any CPR training done recently		Within 6 months
	Yes	60	100
	No		

Table 3: Frequency and percentage distribution rereading level of knowledge in pretest and post-test. n= 60

Pre-test level of knowledge			
Sr. No.	Level of knowledge	Frequency	Percentage
1	>68% Adequate Knowledge (27-40)	15	25
2	34-67% average knowledge (14-26)	43	72
3	<33% Inadequate knowledge (0-13)	02	3

Table 4 depicts that majority of subjects (25%) had adequate level of knowledge, 72% average level of knowledge and 43% inadequate level of knowledge during the pre-test.

Whereas majority of subjects (57%) had adequate level of knowledge, 43% average level of knowledge and 0% inadequate level of knowledge after the post-test.

Table 4: Mean and standard deviation before and after structured teaching program (STP) by using paired t-test

Paired t-test Samples Statistics						
SI. No.	Variables	Mean	Std. Deviation	Std. Error Mean	t value	P value
Pre- test STP	24.0167	2.86115	.36937	-10.560	0.000	S
	Post- test STP	27.4333	3.37672	.43593	df(59)	

Section C: Table 3: Association of pre-test level of knowledge with selected socio- demographic variables such as Age, Gender and Qualification. n=60

S.N	Socio-demographic variables	Score			Chi square value(2 ²)	P value
		Adequate knowledge	Average knowledge	Inadequate knowledge		
1	Age (in years)			39.708 df=4 S	0.000	
	21-25	7	30			0
	26-30	5	15			0
	31-35	0	1			2
2	Religion			31.9 df=4 S	0.000	
	Hindu	6	23			0
	Muslim	3	23			0
	Christian	3	0			2
3	Type of family			3.013 df= 2 NS	0.222	
	Joint family	2	20			1
	Nuclear family	0	26			1

NS= Not significant, df= Degree of freedom.

Table 3 defines that there is no significant association between pretest knowledge and selected socio demographic variables like Age, gender and qualification.

Table 5: Association of pre-test level of knowledge with selected socio-demographic variables such as Ace, Gender and Qualification.

SL.N	Socio- demographic variables	Score			Chi square value (J2)	P value
		Adequate knowledge	Average knowledge	Inadequate knowledge		
6	Type of education			12.05 df=4 NS	0.017	
	SSLC	8	26			2
	PUC	1	19			0
	Degree	3	1			0
7	Experience			5.722 df=2 NS	.057	
	1-10	3	26			2
	11-20	9	20			0

Chi square was calculated to find out the association between the Pretest knowledge scores and demographic variables of the ASHA workers. Significant association was found between knowledge scores of ASHA workers regarding Cardiopulmonary Resuscitation with their demographic variables such as Source of information $P < 0.001$. No

significant association was found between knowledge scores of ASHA workers regarding Cardiopulmonary Resuscitation with their demographic variables such as age, religion, type of family, residential area, marital status, family history, education and experience group studied in ($P > 0.001$).

Table 6: Comparison of Pre-test and Post-test Knowledge score on cardio pulmonary resuscitation among ASHA workers

Paired t-test Samples Statistics						
Sr. No.	Variables	Mean	Std. Deviation	Std. Error Mean	t value	P value
1	Pre- test STP	24.0167	2.86115	.36937	-10.560 df(59)	0.000 S
	Post- test STP	27.4333	3.37672	.43593		

** significant at $p < 0.001$ t (0.01, 49df) = 0.000

The Data from Table -11 & figure 14 depict that, mean, mean %, SD, SD% of pre-test and post-test knowledge scores, enhancement in post-test knowledge score and paired 't' test value. The mean percentage of pre-test was 24.0167% and post-test was 27.433% with the enhancement of 3.4163% in post-test. The paired "t" test value is -10.560*. The calculated 't' value is greater than table value (0.001, 59df) = 0.000. Hence the null hypothesis (H_0) is rejected, research hypothesis (H_1) is accepted. This indicates that there is significance difference between mean pre-test and post-test knowledge scores of ASHA workers on cardio pulmonary resuscitation.

Discussion

Findings related to respondents' personal characteristics

- Majority of the subjects 61-7% were between the age group of 21 - 25 years and 33.3% were between 26 - 30 years and between the age group 31-35 were 5.0%.
- Regarding Gender, majority of the subjects 100% were Females and none of were Males and No one is Transgender.
- Regarding religion 48.3% belongs to Hindu Religion, 48.3% were Muslim, 8.3% belongsto Christian religion
- Respondent's Area of Residence, majority of the Respondents 50% were Residing in Urban area and 50% were living in rural area.
- When come to marital status 56.7% were Unmarried and 43.3% were married and none of them are Widow.
- The type of family Respondents are 38.3% are living in joint family and 61.7% were living in nuclear family.
- Regarding educational qualification 60.0% were completed SSLC 33.3% completed PUC and 6.7% were Degree holders

- Regarding previous knowledge about CPR none of them were having knowledge regarding CPR.
- About their professional experience in years 51.7% were having 1-10 years' experience and 48.3% were having 11-20-year experience.
- Regarding languages 100% of them understand Kannada and no one knows about English and Hindi.
- Regarding CPR training programme none of them took training about CPR.

First objective of the study

To assess the knowledge level regarding cardio pulmonary resuscitation among ASHA workers in selected rural area of Primary Health Center Kotur, Hubali-Dharwad.

The present study showed that analysis of the knowledge score. Inadequate knowledge regarding cardio pulmonary resuscitation with the mean knowledge score is 24.0167% in pre-test.

The supportive study is substantiated by

A cross sectional study was conducted in Basaveshwara Medical College and Hospital. Those who were willing to participate in the study and who gave informed consent, were administered a self-filling written questionnaire. A total of 400 people were administered the questionnaire, out of which 388 filled the Performa completely. This study was conducted to evaluate knowledge of basic life support among 388 health care professionals took part in the study of which 64.5% were medical students, 8.7% were doctors, 10.3% were nursing staff and 16.5% were nursing students. The study revealed that there is poor knowledge of basic life support among the respondents and 76% of them wanted basic life support to be included in the curriculum.

Awareness and knowledge about basic life support is

mandatory among health care professionals as they encounter such situation on a daily basis and will help them a long way in saving lives, thus knowledge in basic life support is very essential as health care professionals will get exposed to such situation more often

Second objective of the study

To evaluate the effectiveness of structured teaching programme on knowledge regarding cardio pulmonary resuscitation among ASHA workers in selected rural area of Primary Health Center Kotur, Hubali-Dharwad

The present study showed that analysis of the knowledge score. Inadequate knowledge regarding cardio pulmonary resuscitation with the mean knowledge score is 24.0167% in pre-test and post-test is 27.4333%.

The present study is sustained by the result of Ravivarman, conducted study to assess the effectiveness of structured teaching programme on knowledge regarding Basic life support among first year undergraduate Nursing students. Quantitative pre experimental research design was adopted for this present study. First year 59 undergraduate Nursing students were chosen by Purposive sampling technique. The data were collected by using demographic proforma and self-structured knowledge questionnaire. Pre-test and post- test knowledge scores revealed that during pre-test, the mean score 8.6 ± 3.07 (SD) which is 43% of the total mean score, whereas in post-test, the mean score was 15.13 ± 2.26 (SD) which is 75.65% of the total mean score depicting difference of 32.65% increase in mean percentage of score. The calculated 't' value 24.89 which is higher than the $p < 0.05$, stated that highly significant difference between the pre-test and post-test. It proved that the structured teaching programme was highly effective to improve the student's knowledge.

Third objective of the study

To compare pre-test and post-test knowledge of structured teaching programme on cardio pulmonary resuscitation among ASHA workers in selected rural areas of Primary Health Center Kotur, Hubli-Dharwad. The comparison of pre-test and post-test knowledge score on cardio pulmonary resuscitation on regarding cardio pulmonary resuscitation among ASHA workers in selected rural areas of Primary Health Center Kotur, Hubli-Dharwad unveiled that the mean percentage knowledge score was 24.0167% in pre-test where as in post-test it was 27.4333%. The mean percentage score was increased because of the administration Structured teaching programme regarding cardio pulmonary resuscitation. The paired "t" value of comparison of pre and post-test was -10.560 in knowledge which was statistically significant at level $P > 0.001$. The above findings are supported by an evaluative study conducted.

Joseph ml conducted: A Structured teaching programme on knowledge regarding cardio pulmonary resuscitation among iv year B.sc. Nursing students of selected nursing colleges at tumkur, Karnataka the research of the study was pre-experimental and design was one group pretest-posttest. The mean knowledge score of pretest was 16.55, and that of posttest was 32.47. Standard deviation of pretest is 3.784 and for posttest is 1.228. The mean skills score of pretest was 5.13, and that of posttest was 7.15. Standard deviation of pretest is 0.74 and for posttest is 0.36. This indicates that, the

stp was effective in increasing the knowledge as well as skills regarding CPR for B.Sc. Nursing iv year students.

Fourth objective of the study

To find out the association between knowledge regarding cardiopulmonary resuscitation among ASHA workers with selected socio demographic variables.

The comparison of pre and post-test knowledge score on cardio pulmonary resuscitation among ASHA workers unveiled that the mean percentage knowledge score was 24.0167% in pretest where as in post-test it was 27.4333%. The mean percentage score was increased because of the administration of structured teaching programme regarding knowledge of ASHA workers on cardio pulmonary resuscitation.

The paired "t" value of comparison of pre and posttest was -10.560 in knowledge which was statistically significant at level $p < 0.001$.

The present study, the calculated χ^2 values for Age & Religion with pretest knowledge level had significant association that is more than the table value and calculated χ^2 values were less than the table value for other socio demographic variables with knowledge. Therefore, it was concluded that there was significant association between Age & Religion of Respondents with pretest Knowledge practice level.

Conclusion

- The findings of the study indicate that all the ASHA workers should be made aware of the need of observing the teaching the CPR.
- Health can be established through mass media like posters, pamphlets, charts, samples, demonstrations and videos etc.
- ASHA workers, nurse and teaching faculty can be provided with in-service education to update their knowledge regarding CPR.
- Efforts should be made to improve and expand nursing curriculum to provide more content concerning awareness of CPR.

Conflict of Interest

Not available.

Financial Support

Not available.

References

1. Lewis SL, Dirksen SR, Heitkemper MM, Bucher L, Harding MM. Medical and surgical nursing. 6th ed. Philadelphia: Mosby Publications; c2004. p. 879-884.
2. Basavanthappa BT. Medical surgical nursing. 2nd ed. New Delhi: Jaypee Publishers; c2009. p. 956-958.
3. Docherty B. Basic life support, clinical manager cardiology and critical care. 4th ed. New York; c2003. p. 56-59.
4. George JB. Nursing theory: the base of professional nursing practice. 4th ed. United States: Appleton & Lange; c2008. p. 14-19.
5. Black JM, Hawks JH, Keene AM. Medical surgical nursing. 7th ed. New Delhi: Elsevier Publications; c2011. p. 472-474.

6. American Heart Association. American Heart Association guidelines for CPR and emergency cardiovascular care. *Circulation*. 2005;112(24):IV1-IV203.
7. Suddarth DS, Brunner LS. Textbook of medical surgical nursing. 10th ed. New Delhi: Lippincott Williams & Wilkins; c2004. p. 250-251.
8. Davidson S, Elsevier M. Principles and practice of medicine. 19th ed. New Delhi: Churchill Livingstone Publishers; c2002. p. 403-405.
9. George JB. Nursing theory: the base of professional nursing practice. 4th ed. United States: Appleton & Lange; c2008. p. 14-19.
10. Anthony A. Knowledge of basic life support among healthcare professionals in a tertiary care hospital. *International Journal of Modern Developments in Engineering and Science*. 2022, 1(2). Available from: <http://www.indianjournal.com>
11. Chandrasekaran S, Kumar S, Bhat SA. Awareness of basic life support in Vinayaka Mission Medical College, Salem. *Indian Journal of Anaesthesia*. 2010;54(2):121-126.
12. Kavari SH, Chohedri AH. Cardiopulmonary resuscitation: Knowledge and personal experience in Iranian dentists. *Pakistan Journal of Medical Sciences*. 2007;23(2):296-297.
13. American Heart Association. American Heart Association guidelines for CPR cardiovascular care. *Circulation*. 2005;112(24):IV1-IV203.
14. Kumari D. Knowledge, attitude, and behavior of undergraduate dental students towards cardiopulmonary resuscitation: a descriptive study. *Indian Journal of Forensic Medicine and Toxicology*. 2020;14(3):215-221.
15. Hamilton R. Nurses' knowledge and skill retention following cardiopulmonary resuscitation training: a review of the literature. *Journal of Advanced Nursing*. 2005;51(3):288-297.
16. Eisenberg MS, Mengert TJ. Cardiac resuscitation. *New England Journal of Medicine*. 2002;344(17):1034-1043.
17. Abella BS, Sandbo N, Vassilatos P, Alvarado JP, O'Hearn N, Wigder HN, *et al.* Quality of cardiopulmonary resuscitation during in-hospital cardiac arrest. *Journal of the American Medical Association*. 2005;293(3):293-298.
18. Kerridge IH, Pearson SA, Rolfe IE, Lowe M, McPhee J. Decision-making in CPR: Attitudes of hospital patients and healthcare professionals. *Medical Journal of Australia*. 1998;169(3):128-131.
19. Parashar A. Effective planned teaching programme on knowledge and practice of basic life support among students in Mangalore. *The Nursing Journal of India*. 2010;101(2):30-32.
20. Bakhsh F. Assessing the need and effect of updating the knowledge about cardiopulmonary resuscitation in experts. *Journal of Clinical and Diagnostic Research*. 2010;4(3):2511-2514.
21. Polit DF, Beck CT. Essentials of nursing research. 4th ed. Philadelphia: Lippincott Williams & Wilkins; c2009. p. 40-45.
22. Hazinski MF, Cummins RO, Field JM, eds. Handbook of emergency cardiovascular care for healthcare providers. Dallas, TX: American Heart Association; 2000. p. 10.
23. Cambridge Dictionary. Feedback [Internet]. Available from: <https://dictionary.cambridge.org/dictionary/english/feed-back>
24. Eisenberg MS, Horwood BT, Cummins RO, Reynolds-Haertle R, Hearne TR. Cardiac arrest and resuscitation: a tale of 29 cities. *Annals of Emergency Medicine*. 2005;19(2):179-186.

How to Cite This Article

Appasab MM, Swati A, Jesuraj R, Naik P. A study to assess the effectiveness of structured teaching programme on knowledge regarding cardio pulmonary resuscitation among Asha workers in a selected rural area of Hubali-Dharwad. *International Journal of Advance Research in Nursing*. 2025; 8(1): 119-124.

Creative Commons (CC) License

This is an open-access journal, and articles are distributed under the terms of the Creative Commons Attribution-Non Commercial-Share Alike 4.0 International (CC BY-NC-SA 4.0) License, which allows others to remix, tweak, and build upon the work non-commercially, as long as appropriate credit is given and the new creations are licensed under the identical terms.