



Effectiveness of Out Side Hospital Cardiac Arrest (OHCA) Management Training Program on Knowledge, Attitude and Practice among the Industrial Workers in Industrial Areas of Waghodia

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ABSTRACT

Out-of-hospital cardiac arrest (OHCA) is a leading cause of global mortality. In developing countries such as India, cardiovascular disease is a major cause of mortality. It is estimated that 60% of the world's coronary artery disease (CAD) patients are South OHCA are still being treated by emergency medical services. More than 75% of these are due mostly to heart disease. Particularly with regard to providing the OHCA management training programme. Objectives: To assess the knowledge, attitude and practice about out of hospital cardiac arrest (OHCA) management among the Industrial workers and find out the association between knowledge, attitude and practice with demographic variables of Industrial workers. The study design selected for this study was Pre - Experimental, one-group pretest-posttest design. Participants were chosen through non-Probability purposive Sampling Technique. A total 200 industrial workers were selected as a participant. In the data collection tool socio-demographic Performa, a self-structured knowledge questionnaire on Outside Cardiac Management, attitude scale and practice checklist were used. The tool was validated by clinical expertise and experienced teachers. In the data collection procedure, the knowledge, attitude and practice were assessed before and after the training programme on OHCA management. The training programme was delivered for 60-90 minutes. Case scenario was used to give cardiac arrest. High fidelity manikin was used to teach the management of outside cardiac arrest to the participants. Based on what respondent's answers there was a significant difference in the total score of the pre-test and post-test score after completing training programme on OHCA management with the calculation of results shows knowledge score (17.315), Attitude score (45.287) and practice score (26.942) at degree of freedom 199 (1.96), calculated t value is < tabulated t value. p- value <0.05 level of significance. hence the training programme were found effective in the improvement of knowledge and changes in the attitude of the outside cardiac arrest among the industrial workers. The Study concluded that the knowledge, attitude and practice score of participants were improved after the training program among industrial workers. Many industrial workers were enthusiastically participated in the study.

Keywords: Outside hospital cardiac arrest (OHCA), Coronary Artery Disease, Training Programme, Industrial workers, Knowledge, Attitude and Practice.

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INTRODUCTION

Out-of-hospital cardiac arrest (OHCA) is a leading cause of global mortality [1]. In developing countries such as India, cardiovascular disease is a major cause of mortality. It is estimated that 60% of the world's coronary artery disease (CAD) patients are South OHCA are still being treated by emergency medical services [2].

More than 75% of these are due mostly to heart disease [3]. The sudden loss of cardiac mechanical contractility and signs of circulation in a community setting is known as an "out-of-hospital cardiac arrest" (OHCA) [4].

A sudden loss of consciousness, consciousness, and heartbeat are hallmarks of cardiac arrest. A cardiac arrest is when a person stops breathing and has no pulse. More than 350,000 cardiac arrests occur outside of hospitals in the United States each year [5].

Sudden death occurs when the heart and respiration stop. A heart attack is extremely risky and potentially fatal. Heart attacks, electrical shocks, drowning, choking, suffocation, trauma, interactions with pharmaceuticals, and allergic reactions are additional common causes of sudden death [6].

A study to assess effectiveness on outside hospital cardiac arrest (OHCA) management training programme. The study objectives are to assess the knowledge, attitude and practice about out of hospital cardiac arrest (OHCA) management among the Industrial workers and find out the association between knowledge, attitude and practice with demographic variables of Industrial workers.

MATERIAL AND METHODS

A quantitative research approach was used to conduct this study and design was pre-experimental, one group pre-test post-test research design to assess the outside hospital cardiac arrest (OHCA) management training programme on knowledge, attitude and practice among industrial workers. Industrial workers are the sample for the study and sample size was 200. A non-probability purposive sampling technique was used for sample selection. Research variable was knowledge, attitude and practice of industrial workers regarding outside hospital cardiac arrest (OHCA) management. Criteria for the sample, inclusion criteria include adults male and female workers, participants who is available at the time of data collection. And exclusive criteria include participants who are not willing to participate and people with problems like fracture or any health illness. Tool used in this study was self-structured knowledge questionnaire, attitude rating scale and practice checklist. Collected data were analysed by using descriptive and inferential statistics. The study was limited on knowledge, attitude and practice. the sample size was limited to only 200 industrial workers. Sample was used for study belongs to industrial area of Waghodia. the findings could not be generalized beyond this geographical group.

RESULTS

Among the 200 participants, 39.50% of participants belongs to the age group between 29-39 years, 52.50% were male participants, whereas majority of 32% were more then 1 year of experience, 26.59% participants had secondary education, 52.50% participants were live in nuclear family and 64% participants were follow Hindu Religion, 68.50% participants from the Rural area, 92% majority of participants had not any previous training of OHCA management. Majority of participants 67.50% were think it's not needed, Among the all 200 (100%) participants had not attended the OHCA Management Training. majority of 10 (5%) have not ever seen a collapsed victim previously, and 190 (95%) have not seen ever.

As denotes in Table 1: knowledge score of the industrial workers in the post-test and pre-test score regarding OHCA management. According to finding of post-test 10(5%) had Poor Score, 126(63%) had Average Score 64(32%) workers had good knowledge, and none of participants had excellent knowledge. And according to finding of the Pretest 124(62%) had Poor Score, 76(38%) workers had Average knowledge, and none of the workers had good and excellent knowledge.

Table 1: Comparison of Pre and Post-test Knowledge Scores of Industrial Workers.(n=200)

KNOWLEDGE SCORE	PRE-TEST	POST TEST
	FREQUENCY (%)	FREQUENCY (%)
Poor Score (≤10)	124(62%)	10(5%)
Average Score (11- 15)	76(38%)	126(63%)
Good Score (16 - 20)	0(0%)	64(32%)
Excellent Score (21 - 25)	0(0%)	0(0%)
TOTAL	200(100%)	200(100%)

As depicted in Table 2: Post-test and pre-test score regarding OHCA management. According to finding of post-test 138(69%) had Average Score 62(31%) industrial workers had good attitude, and according to finding of the pre-test 178(89%) had Poor Score, 22(11%) industrial workers had Average attitude, and none of the industrial workers had good Attitude.

Table 2: Comparison of Pre and Post-test Attitude Scores of Industrial Workers (n=200)

ATTITUDE LEVEL	PRE-TEST	POST TEST
	FREQUENCY (%)	FREQUENCY (%)
Poor Level (<21)	178(89%)	0(0%)
Average Level (22-43)	22(11%)	138(69%)
Good Level (44-65)	0(0%)	62(31%)

As illustrated in Table 3: Post-test and pre-test score regarding OHCA management. According to finding of post-test 52(26%) had Poor Score, and 148(74%) industrial workers had Average Score, and none of the workers had good and excellent Score. and according to finding of the pre-test 197(98.5%) had Poor Score, 3(1.5%) industrial workers had Average Score, and none of the industrial workers had good and excellent Score.

Table 3: Comparison of Pre and Post-test Practice Scores of workers (n=200).

PRACTICE SCORE	PRE-TEST	POST TEST
	FREQUENCY (%)	FREQUENCY (%)
Poor Score (≤ 10)	197(98.5%)	52(26%)
Average Score (11- 15)	3(1.5%)	148(74%)
Good Score (16 – 20)	0(0%)	0(0%)
Excellent Score (21 – 25)	0(0%)	0(0%)

As represented in Table 4: That maximum (27.37%) knowledge gained by the workers was in area of Anatomy and physiology of the heart. The second highest knowledge gained (17.75%) is in the area of indication of OHCA. Also reveals that (7.58%) in the area of Procedure OHCA knowledge and (6.5%) scenario-based questions on OHCA. (2%) Least knowledge gained in the area of CPR and terminology.

Table 4: Item wise Knowledge Score of Workers Regarding outside Hospital Cardiac Arrest (OHCA) Management.

Knowledge	Maximum Possible Score	Mean		Mean %		Gain %	
		Pretest	Posttest	Pretest	Posttest	Actual Gain	Possible Gain
1. Anatomy and physiology of the heart.	4	2.17	3.265	54.25%	81.62%	27.37%	45.75%
2. Indication of OHCA	4	1.545	2.255	38.62%	56.37%	17.75%	61.38%
3.CPR and terminology	1	0.64	0.66	64%	66%	2%	36%
4. Scenario-based questions on OHCA	2	0.655	0.785	32.75%	39.25%	6.5%	67.25%
5. Procedure of OHCA	14	5.485	6.545	39.17%	46.75%	7.58%	60.83%

As denotes in Table 5: That mean post-test attitude score was higher than mean pre-test knowledge score with Calculated 't' value at 199 degree of freedom 17.315 (1.96) is <0.05 level of significance. training programme outside hospital cardiac arrest (OHCA) management is significant in increasing the knowledge of industrial workers.

Table 5: Comparison of overall Knowledge Scores of industrial workers on outside hospital cardiac arrest (OHCA) management. n=200

Knowledge Score	Mean Score	Standard Deviation	Degree of Freedom	Calculated 't' Value	't' Table Value	Level of Significance
Post-test	14.06	2.263	199	17.315	1.96	0.05*

As depicted in Table 6: That mean post-test attitude score was higher than mean pre-test attitude score with Calculated 't' value at 199 degree of freedom 45.287 (1.96) is <0.05 level of significance. The training programme outside hospital cardiac arrest (OHCA) management is significant in increasing the Attitude of industrial workers.

Table 6: Comparison of overall Attitude Level of industrial workers on outside hospital cardiac arrest (OHCA) management. n=200

Attitude Score	Mean Score	Standard Deviation	Degree of Freedom	Calculated 't' Value	't' Table Value	Level of Significance
Post-test	42.53	5.863	199	45.287	1.96	0.05*

As depicted in Table 7: That mean post-test practice score was higher than mean pre-test practice score with calculated 't' value at 199 degree of freedom 26.942 (1.96) is <0.05 level of significance. training programme outside hospital cardiac arrest (OHCA) management is significant in increasing the Practice of industrial workers.

Table 7: Comparison of Overall Practice Scores of Workers on Outside Hospital Cardiac Arrest (OHCA) Management (n=200)

Practice Score	Mean Score	Standard Deviation	Degree Of Freedom	Calculated 't' Value	't' Table Value	Level Of Significance
Post-test	11.62	1.646	199	26.942	1.96	0.05*

As depicted in Table 8: That calculated p-value is less than 0.05 level of significance hence there was a significant association between industrial workers knowledge regarding training programme outside hospital cardiac arrest (OHCA) management and socio-demographic variables are Type of family and is there any training provided by your industry.

Table 8: Findings Related To The Association Of The Demographic Variables With The Pretest Knowledge Score (n=200)

Sr. No.	Demographic Variable	F	Knowledge score			X ² Value	df	p-value
			Poor	Average	Good			
1	Age					1.397	3	0.706*
	24-28 Years	42	29	13	0			
	29- 38 years	79	48	31	0			
	39-40 years	62	36	26	0			
	40- 49 years	17	11	6	0			
2	Gender					0.818	1	0.366*
	Male	105	62	43	0			
	Female	95	62	33	0			
	Other	0	0	0	0			
3	Education					3.870	3	0.276*
	Primary	72	48	24	0			
	Secondary	59	37	22	0			
	Graduate	50	31	19	0			
	Post graduate	19	8	11	0			
4	Year of experience					2.475	3	0.480*
	Less than 1 year	39	24	15	0			
	More than 1 year	59	32	27	0			
	More than 2 years	64	43	21	0			
	More than 5 years	38	25	13	0			
5	Type of residential area					0.111	1	0.740*
	Urban	63	38	25	0			
	Rural	137	86	51	0			
6	Type of family					4.290	1	0.038**
	Joint family	95	66	29	0			
	Nuclear family	105	58	47	0			
7	Religion					0.700	3	0.873*
	Hindu	128	79	49	0			
	Muslim	47	31	16	0			
	Christian	16	9	7	0			
8	Previous knowledge about OHCA management.					0.336	1	0.562*
	Yes	16	11	5	0			
	No	184	113	71	0			
	If yes, source of information through							

9	Media	65	45	20	0	2.137	1	0.144*
	Books	0	0	0	0			
	Relatives	0	0	0	0			
	Friends	0	0	0	0			
	No any sources	135	79	56	0			
10	Is there any training provided by your industry?							
	Yes	0	0	0	0	0	0	0**
	No	200	124	76	0			
11	Have you ever come across victim with cardiac arrest?							
	Yes	10	4	6	0	2.162	1	0.141*
	No	190	120	70	0			

*No Significant **Significant

As depicted in Table 9: That calculated p-value is less than 0.05 level of significance hence there was a significant association between industrial workers attitude regarding training programme outside hospital cardiac arrest (OHCA) management and socio-demographic variables are is there any training provided by your industry, source of information through.

Table 9: Findings Related to the Association of the Demographic Variables with the Pretest Attitude score (n=200)

Sr. No.	Demographic Variable	F	Attitude score			X ² Value	df	p-value
			Poor	Average	Good			
1	Age							
	24-28 Years	42	39	3	0	2.821	3	0.420*
	28- 39 years	79	71	8	0			
	39-40 years	62	52	10	0			
	40- 49 years	17	16	1	0			
2	Gender							
	Male	105	94	11	0	0.062	1	0.803*
	Female	95	84	11	0			
	Other	0	0	0	0			
3	Education							
	Primary	72	66	6	0	7.120	3	0.068*
	Secondary	59	49	10	0			
	Graduate	50	48	2	0			
	Post graduate	19	15	4	0			
4	Year of experience							
	Less than 1 year	39	35	4	0	1.127	3	0.771*
	More than 1 year	59	53	6	0			
	More than 2 years	64	58	6	0			
	More than 5 years	38	32	6	0			
5	Type of residential area							
	Urban	63	53	10	0	2.231	1	0.135*
	Rural	137	125	12	0			
6	Type of family							
	Joint family	95	81	14	0	2.581	1	0.108*
	Nuclear family	105	97	8	0			
7	Religion							
	Hindu	128	114	14	0	1.299	3	0.729*
	Muslim	47	41	6	0			
	Christian	16	9	2	0			
8	Previous knowledge about OHCA management.							
	Yes	16	14	2	0	0.040	1	0.842*
	No	184	164	20	0			
9	If yes, source of information through							
	Media	65	53	12	0	5.476	1	0.019**
	Books	0	0	0	0			
	Relatives	0	0	0	0			
	Friends	0	0	0	0			
	No any sources	135	125	10	0			
10	Is there any training provided by your industry?							
	Yes	0	0	0	0			

	No	200	178	22	0	0	0	0**
11	Have you ever come across victim with cardiac arrest?							
	Yes	10	10	0	0	1.301	1	0.254*
	No	190	168	22	0			

*No Significant **Significant

As depicted in Table 10: That calculated p-value is less than 0.05 level of significance hence there was a significant association between industrial workers practice regarding training programme outside hospital cardiac arrest (OHCA) management and socio-demographic variables are Type of residential area, and is there any training provided by your industry.

Table 10: Findings Related to the Association of The Demographic Variables with the Pretest Practice Score (n=200)

Sr. No.	Demographic variable	F	Practice score			X ² Value	df	p-value
			Poor	Average	Good			
1	Age							
	24-28 Years	42	41	1	0	0.514	3	0.916*
	29- 38 years	79	78	1	0			
	39-40 years	62	61	1	0			
	40- 49 years	17	17	0	0			
2	Gender							
	Male	105	102	3	0	2.756	1	0.096*
	Female	95	95	0	0			
	Other	0	0	0	0			
3	Education							
	Primary	72	70	2	0	1.862	3	0.602*
	Secondary	59	58	1	0			
	Graduate	50	50	0	0			
	Post graduate	19	19	0	0			
4	Year of experience							
	Less than 1 year	39	39	0	0	2.332	3	0.506*
	More than 1 year	59	58	1	0			
	More than 2 years	64	62	2	0			
	More than 5 years	38	38	0	0			
5	Type of residential area							
	Urban	63	60	3	0	6.623	1	0.010**
	Rural	137	137	0	0			
6	Type of family							
	Joint family	95	92	3	0	3.366	1	0.067*
	Nuclear family	105	105	0	0			
7	Religion							
	Hindu	128	126	2	0	3.299	3	0.348*
	Muslim	47	47	0	0			
	Christian	16	15	1	0			
8	Previous knowledge about OHCA management.							
	Yes	16	16	0	0	0.265	1	0.607*
	No	184	181	3	0			
9	If yes, source of information through							
	Media	65	63	2	0	1.621	1	0.203*
	Books	0	0	0	0			
	Relatives	0	0	0	0			
	Friends	0	0	0	0			
	No any sources	135	134	1	0			
10	Is there any training provided by your industry?							
	Yes	0	0	0	0	0	0	0**
	No	200	197	3	0			
11	Have you ever come across victim with cardiac arrest?							
	Yes	10	10	0	0	0.160	1	0.689*
	No	190	187	3	0			

*No Significant **Significant

DISCUSSION

The similar study conducted by Candra Kusuma Negara, et, al. 2020. A conducted a Pre-experimental (One Group Pretest-Posttest) study to assess effect of the Subject Matter Analysis (SMA) training model on knowledge in dealing with Out-of-hospital cardiac arrest (OHCA) events.²

CONCLUSION

The conclusion of this study was the training programme is improving the knowledge, attitude and practice score among industrial workers of industrial areas.

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