ASSESS THE EFFECTIVENESS OF STRUCTURED TEACHING PROGRAMME REGARDING KNOWLEDGE ON COLD CHAIN AMONG AUXILIARY NURSE MIDWIVES IN SELECTED HEALTH CENTER

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Abstract

Background: Cold chain management is a system of transport and storage of vaccines in a potent state from the time of manufacture to the time of administration. Preserving vaccines from its manufacture through administration requires adequate cold chain infrastructure, compliance with standards, and effective management Vaccines are used for producing immunity in the human being and they are also use in the form of prepared or readymade antibodies to overcome from infection. During transportation of the vaccines methods used for are very less and they are cost full so while transportation of vaccines the environment of the preservation should be appropriate and it should be properly cared by the health personnel who is transporting the vaccines.

Material and Methods: Qualitative research design with one group pre-test post-test design was used in this study. Non-probability Convenient sampling technique had been adopted to select the desired samples. The main aim of this study was to assess the level of knowledge regarding cold chain among the Auxiliary Nurse Midwives and find out the association of pre-test knowledge score of auxiliary nurse midwives with their selected demographic variables . The sample size was 40 Auxiliary Nurse Midwives in Community Health Center. The data collected by using Structure knowledge questioners,30 structured questions were administered to assess the knowledge of Auxiliary Nurse Midwives on cold chain maintenance. Score '1' for every correct answer and score '0' for wrong answer. Each question has 3

distracters with 1 most appropriate answer. Based on the scores overall adequacy of the knowledge is graded as inadequate knowledge (00-10), satisfactory knowledge (11-20), or adequate knowledge (21-30).

Results: Prior to the administration of Structured Teaching Programme plan the highest percentage of Auxiliary Nurse Midwives (62.5%) had inadequate knowledge whereas highest percentage of Auxiliary Nurse Midwives (37.5%) had satisfactory knowledge after administration of Structured Teaching Programme plan. There is significant association of pre-test score on cold chain with their selected demographic variables on marital status of Auxiliary Nurse Midwives except the allowance of using cold chain with chi square value 15.53at 0.05 level of significance.

Conclusion: The research study finding that the structure teaching program was highly effective in improving knowledge regarding cold chain among Auxiliary Nurse Midwives.

Key words: Effectiveness, knowledge, Cold Chain, Auxiliary Nurse Midwives.

Introduction

Use of vaccination to prevent diseases is one of the greatest public health successes of the last century. Vaccination has greatly decreased the burden of infectious diseases globally and has dramatically decreased the threat of diseases that were once widespread and often times fatal. In the US, the Center for Disease Control and Prevention estimates that vaccinations have prevented >21 million hospitalizations and 732,000 deaths among children born in the last 30 years. Vaccine-preventable diseases (VPDs) are responsible for nearly 20% of the 8.8 million deaths/year among children under-5 years. VPDs such as pneumonia, diarrhea, and measles account for about 40% of all deaths among under-five children in Nigeria. This has been attributed to poor routine immunization performance, caused by logistics and supply chain infrastructure issues, failure of the cold chain and inadequate knowledge among health workers regarding cold chain management.[1]

India has one of the largest immunization programme in the world1 and childhood immunization is one of the most cost effective public health interventions.2 In order to realize the full benefits of immunization, coverage of vaccination has to be increased

and more importantly potent vaccines should reach the beneficiaries for which cold chain maintenance is crucial.1,3 National family health survey (NFHS-3) reports revealed that in Karnataka, the percentage of children in the age group of 12-23 months who were fully immunized with one dose of BCG, measles and 3 doses of Oral polio vaccine (OPV) and Diphtheria, Pertussis and Tetanus(DPT) was 55.0%.4 In this regard, Government of Karnataka undertook state wide training of medical officers and health workers on Routine immunization (RI) in 2008. Concurrent efforts made to strengthen cold chain system at government level by providing right cold chain equipment.[2]

Vaccination has proved to be one of the most cost-effective part of health promotion. Success of immunization includes worldwide eradication of smallpox, control of poliomyelitis with hopes of eradication, and elimination of indigenous measles and rubella. The incidence of most other vaccine-preventable diseases, excluding pertusis and tetanus, has shown a reduction of at least 99%, compared with the annual morbidity before development of the corresponding vaccine.[3]

Material and Methods

Quantitative research approach with one group pre-test post-test design was used to collect data. Non-probability Convenient sampling technique had been adopted to select the desired samples. Written permission was obtained from the administrative authority of all health CentreThe data collected from 40 Auxiliary Nurse Midwives and obtained an informed consent after explaining the importance and purpose of the study, Confidentiality was assured to the subjects. Pre-test questionnaire was administered to 40 Auxiliary Nurse Midwives. Average time was taken for pre-test was 25 to 30 minutes. The structured teaching programme was administered to the Auxiliary Nurse Midwives. Post test was administered after 7 days by using same questionnaire. The tool consist of two sections: Section: A Demographic data such as age, education, type of working institution, working experiences previous knowledge. Section: BThis section consists of 30 structured questions to assess the knowledge of Auxiliary Nurse Midwives on cold chain maintenance.Score '1' for every correct answer and score '0' for wrong answer. Each question has 3 distracters with 1 most appropriate answer. Based on the scores overall adequacy of the knowledge is graded as inadequate knowledge (00-10), satisfactory knowledge (11-20), or

adequate knowledge (21-30). The data obtained from 40 respondents would be analyzed by descriptive and inferential statistics

Table-1 Frequency and percentage distribution of pre-test and post-test knowledge score of ANMs regarding cold chain.

Grade	Pre-test		Post-test	
	Frequency	Percentage	Frequency	Percentage
Inadequate	25	62.5	0	0
Satisfactory	15	37.5	29	72.5
Adequate	0	0	11	27.5
Total	25	62.5	0	0

Above table shows that in pre-test 0 (0%) children were having Adequate knowledge level, 15 (37.5%) were having Satidfsctory knowledge level and 25 (62.5%) were having Inadequate knowledge level. Post-test result shows that 11 (27.5%) were having adequate knowledge level, 29 (72.5%) respondent were having Satidfsctory knowledge level and 0 (0%) having Inadequare knowledge level.

Table:2 Association of pre-test knowledge score of auxiliary nurse midwives with their selected demographic variables.

sr. no	Demographic variables	Pre-test knowledge score		Df	Chi-square
		inadequate	satisfactory		

1	Age in years
	
	  a. 18-21
	  b. 22-26
	  c. 26-30
	  d. 30 and Above
		07
		06
		05
		07
			04
			02
			05
			04
				03	7.78
					N.S.

2	Marital Status
	
	  a. Single
	  b. Married
		10
		15
			07
			08
				01	15.53*
					S

3	The type of working institution centre.
	
	  a. Sub-Centre
	  b. PHC
	  c. CHC
		10
		09
		06
			04
			04
			07
				2	3.83
					N.S

4	Educational Qualification. a. ANM Diploma	10	05		3.80

	b. MPHWCertificate course c. LHVCertificate course	07 08	05 05	2	N.S

5	Do you have Additional professional qualifications?
	   a. Yes
	   b. No
		15
		10
			07
			08
				1	2.31
					N.S

6	Duration of clinical experience.
	   a. 7-12 months
	   b. 2-5 years
	   c. 6 and above
		09
		07
		09
			05
			06
			04
				2	3.83
					N.S

7	Have you participated in any in-service education on cold chain?
	   a. Yes
	   b. No
		12
		13
			10
			05
				1	3.53
					N.S

Above table shows that there was significant association of pre-test knowledge score on cold chain in relation to marital status at 0.05 level of significant and no significant association with age, types of working institution educational qualification, additional qualification, and clinical experience, any in service education of Auxiliary Nurse Midwives at 0.05 level of significant.

Results: Prior to the administration of Structured Teaching Programme plan the highest percentage of Auxiliary Nurse Midwives (62.5%) had inadequate knowledge whereas highest percentage of Auxiliary Nurse Midwives (37.5%) had satisfactory knowledge after administration of Structured Teaching Programme plan. The mean pre-test knowledge score was 11.52 whereas the mean post-test knowledge was 19.4. The post test scores proved that the Structured Teaching Programme given by the investigator, helped Auxiliary Nurse Midwives to improve their knowledge. There is significant association of pre-test score on cold chain with their selected demographic variables on marital status of Auxiliary Nurse Midwives except the allowance of using cold chain with chi square value 15.53at 0.05 level of significance.

Discussion:

Discussion on the findings was arranged based on objectives of the study.Highest percentage of Auxiliary Nurse Midwives (38.3%) were in the age group >30 years and (88.3%) were married. Highest percentage of Auxiliary Nurse Midwives (66.6%) were having ANMs diploma certificate and (46.7%) were working in primary health center. And (85%) Auxiliary Nurse Midwiveswere no additional qualification. Highest percentage of Auxiliary Nurse Midwives (58.3%) had 6 years and above total clinical experience, highest percentage of Auxiliary Nurse Midwives (86.6%) had previous knowledge during in service education. Prior to the administration of Structured Teaching Programme plan the highest percentage of Auxiliary Nurse Midwives (62.5%) had inadequate knowledge whereas highest percentage of Auxiliary Nurse Midwives (37.5%) had satisfactory knowledge after administration of Structured Teaching Programme plan. There is significant association of pre-test score on cold chain with their selected demographic variables on marital status of Auxiliary Nurse Midwives except the allowance of using cold chain with chi square value 15.53at 0.05 level of significance.

Conclusion

The study intended to find out the effect of Structured Teaching Programme regarding knowledge on cold chain maintenance among ANMs (Auxiliary Nurse Midwives) as a means to improve the knowledge of ANMs (Auxiliary Nurse Midwives). The investigator found that the Structured Teaching Programme was effective strategy to improve the knowledge of cold chain. There was significant increase in the level of knowledge on cold chain among Auxiliary Nurse Midwives after the educational intervention. Therefore, it can be concluded that education plays an important role in increasing level of knowledge in care givers.

Ethical clearance

Ethical clearance was obtained from Institutional Ethical Committee (SVIEC) and willingness was obtained from the subject before data collected.

Conflict of Interest: There was no conflict of interest

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