JETIR.ORG ISSN: 2349-5162 | ESTD Year : 2014 | Monthly Issue
JOURNAL OF EMERGING TECHNOLOGIES AND INNOVATIVE RESEARCH (JETIR)
An International Scholarly Open Access, Peer-reviewed, Refereed Journal

THE EFFECTIVENESS OF A STRUCTURED TEACHING PROGRAMME ON KNOWLEDGE REGARDING VACCINE PREVENTABLE DISEASES AMONG MOTHERS OF UNDER-FIVE CHILDREN

1. Sr. Jolly Sebastian,

Designation :- Associate Professor.

Department of Nursing

BCM College of Nursing, Khairabad, Sitapur. Uttar Pradesh. India

2. Dr. Vijay Laxmi Verma.

Designation :-Associate Professor

Department of Nursing

Aligarh Muslim University, Aligarh. India

ABSTRACT

The study aimed to assess the effectiveness of a structured teaching programme on knowledge regarding vaccine preventable diseases and improve the knowledge level of mothers of under five children. As many as 9.7 million children below the age of five die from preventable diseases worldwide. India accounts for 2.1 million deaths from vaccine preventable diseases. Immunization is the single most important way parents can protect their children against serious diseases. An evaluative research approach was adopted and quasi-experimental, one group pre-test post-test design was used in this study. Using a non- probability convenient sampling technique 60 Mothers who had children below five years of age were selected from a rural community of Sitapur district, Uttar Pradesh. A structured knowledge questionnaire was used to assess the knowledge of mothers of under-five children and administered the structured teaching programme. After 7days post test was conducted using same knowledge questionnaire. Data were analysed by using descriptive and inferential statistics. The study was statistically significant at 0.05 level. The total mean post-test knowledge score of 17.36 was higher than the mean pre-test knowledge score 5.53 and the SD for pre-test knowledge was 1.96 and SD for post-test knowledge score was 1.58. The study showed that there is a significant improvement in the knowledge of mothers of under-five children on vaccine preventable diseases after the administration of structured teaching programme. The present study aids to provide knowledge regarding vaccine preventable diseases to mothers who have under-five children.

Keywords: - Effectiveness, Mothers of under-five children, Structured teaching programme, Vaccine preventable diseases

INTRODUCTION

Healthy children are the pillar of next generation. Parents are the laying foundations of their child's lives. So, the parents have a very key role to promote the health of the children. At birth, infants have protection against certain diseases because antibodies have passed from the mother to the unborn child. Breastfed babies continued to maintain passive immunity through breast milk. But this protection is temporary. Immunization (vaccination) is the artificial induction of active immunity by introducing the specific antigen of a pathogenic organism. As many as 9.7 million children below the age of 5 die from preventable diseases worldwide. India accounts for 2.1 million deaths from vaccine-preventable diseases. Vaccination is the single most important way parents can protect their children against serious diseases. There are no effective alternatives to vaccination for protection against serious and sometimes deadly infectious diseases. India's Universal Immunization Programme provides free vaccines against 12 life-threatening diseases, to 26 million children annually. [1]

The mothers' knowledge about vaccination and vaccine-preventable diseases is poor and a teaching program will be effective to educate the mothers on immunization of under-five children and the prevention of vaccine-preventable diseases. The field of paediatric vaccination is growing and challenging as new vaccines are becoming available and previous diseases are being eradicated

due to the complicity and evolution of vaccine-preventable diseases. The last 20 years have seen an explosion in the number of new vaccines like vaccines against typhoid fever, meningitis, etc.

The Global Vaccine Action Plan (GVAP) 2011–2020 endorsed by the World Health Assembly estimated that substantial progress towards the action plan goals could potentially avert 25 million vaccine-preventable deaths by the end of the decade. National health and immunization systems can be assessed with vaccine coverage of that country. [2] Determinants of vaccine coverage in lower-middle-income countries vary by vaccine and can be influenced by factors including facility readiness, characteristics of the child, mother's ability and willingness to vaccinate and awareness, perceptions, and social norms within the community. Community engagement and education are key factors for the success of immunization. [3]

Infants constitute about 2.92% of the total population in India. Around 136 million children are born each year in the world. The chances of survival of these newborns have improved by 50% in the last 20 years. The infant mortality rate of 58 per thousand is compared to 5 per thousand in the developed country. Around 3 million children die each year of vaccine-preventable diseases with a large proportion of these children residing in developing countries. Vaccines remain one of the most cost-effective public health initiatives, yet the cover against vaccine-preventable diseases is far from complete. Approximately 34 million children are not yet completely immunized with almost 98% of them residing in a developing country. [4]

And as of March 2019, 13 countries eliminated neonatal tetanus, a disease with a fatality rate of 70 to 100% among new-borns. The latest report of WHO shows that 112 countries experienced declining DTP3 coverage since 2019 with 62 of those countries declining by at least 5 percentage points. As a result, 25 million children were under-vaccinated in 2021 and more than 60% live in just 10 developing countries and 18 million did not receive any vaccines an increase of 5 million from 2019. [5]

Mothers are the first care providers for their children, which is needed to reduce the under-five mortality rate. One of the ways to achieve reductions in under-five mortality is to educate the mothers on matters spraining to child care. In India over 600,000 deaths annually among children aged 1 to 59 months from vaccine-preventable diseases.

Reasons for selecting the topic:

1. Immunization saves children's lives, but nearly 20 million children don't receive even the most basic vaccines, leaving them vulnerable to dangerous diseases.

2. Vaccination is the best child health intervention we can achieve cost-effectively.

3. One-third of global child deaths due to vaccine-preventable diseases occur in India

4. 30% of deaths among under-five children are from vaccine-preventable diseases.

OBJECTIVES OF THE STUDY

- To assess the knowledge among mothers of under five children regarding vaccine preventable diseases before and after the implementation of Structured Teaching Programme.

- To compare the knowledge level before and after administration of Structured Teaching Programme on vaccine preventable diseases.

METHODS

The Evaluative Approach was used in this study and the research design used in this study is quasi-experimental; one group pre-test post-test design is used to determine the effectiveness of a Structured Teaching Programme on knowledge regarding vaccine preventable diseases among mothers of under five children.

Diagrammatic representation of research design is as follows:

O1	X	O2

O1:- Pre-test assessment on knowledge regarding vaccine preventable diseases.

X: - Structured Teaching Programme

O2:- Post-test assessment on knowledge regarding vaccine preventable diseases.

SETTING OF THE STUDY

The study is conducted in a selected rural community of Karbalapur which is located 1. 5 km from Bishop Conrad Memorial College of Nursing, Khairabad, Sitapur, Uttar Pradesh. The whole population of the village is 1217.

SAMPLE AND SAMPLE SIZE

Sample size of this study consists of 60 mothers of under five children living in a selected rural community of Karbalapur, Sitapur, Uttar Pradesh.

SAMPLING TECHNIQUE

Non-Probability Convenient sampling technique is used to select the sample.

SAMPLING CRITERIA

a) INCLUSION CRITERIA:

Mothers of under five children who are present on the day and who can understand Hindi language and willing to participate in the study

b) EXCLUSION CRITERIA:

Mothers of children more than five years of age and not willing to participate.

DATA COLLECTION TOOLS AND TECHNIQUES:

TOOL-1

Demographic variables:

The section deals with the demographic characteristics of the study such as Age of the mother, Education of the mother, Income, Number of children, Place of delivery, Source of information.

TOOL-2

Structured knowledge questionnaire:

This consists of 25 multiple choice questions (MCQs) to assess the knowledge regarding vaccine preventable diseases by questionnaire technique. A maximum score is 25 and minimum score is 0. 1 mark was given for each correct response and 0 mark was given for each wrong response. No negative marking was done. The knowledge score graded as Good >66%, Average 33- 66%, Poor <33%

CONTENT VALIDITY:

In order to measure the content validity of tool, it was given to three experts from nursing field and three from the medical field. They have examined it and pointed out few corrections in the knowledge questionnaire and lesson plan on vaccine preventable diseases. All items were corrected as per suggestion. So it has 100% validity from the experts.

RELIABILITY:

The reliability was established by Split Half Method. The calculated value r was 0.726.

PILOT STUDY:

The pilot study was conducted in a selected village, after obtaining permission from Head man of the village. The tool and STP were found to be effective. The study was conformed to be feasible and tools were considered reliable and researchers proceeded with the main study.

PROCEDURES FOR DATA COLLECTION

Target Population: The target population involved in the study comprised of mothers of under five children in selected rural community of Karbalapur, Sitapur, Uttar Pradesh.

Accessible Population: The accessible population involved in the study were mothers of under five children who fulfil the inclusion criteria.

The study was conducted in a selected village with the written permission from Headman. The aim of study was to assess the effectiveness of Structured Teaching Programme (STP) on knowledge regarding vaccine preventable diseases among mothers of under five children in a selected rural community. The samples were selected by using non probability convenience sampling techniques where the researcher gave a brief introduction about the study. After obtaining the willingness to participate in the study and establishing good interpersonal relationship 60 sample were selected for the study. Pre-test was done to assess the knowledge regarding vaccine preventable diseases among mothers of under five children, after that STP was given to enhance the knowledge and a post test was conducted after 7 days using the same knowledge questionnaire to study participants.

ANALYSIS AND INTERPRETATION OF DATA

The data was entered in the master data sheet and analysed, interpreted and presented in the table and graphs. Both descriptive and inferential statistics were used for data analysis. The findings of the study are organized and presented in following sections-

Description of demographic characters of mothers of under five children.

Table 1: Frequency and percentage distribution of mothers of under five children by their demographic characteristics

N= 60

Demographic Characteristics	Variable	Frequency	Percentage
Age of mother (in years)	a) Below 20 years	2	3.33%
	b) 21 to 25 years	24	40%
	c) 26 to 30 years	25	41.6%
	d) 31 to 35 years	9	15%
Education of mother	a) Illiterate	37	61.6%
	b) Primary level	15	25%
	c) High school	4	6.6%
	d) Intermediate	4	6.6%
Income of family	a) Below 5000/month	36	60%
	b) 5001 – 10000/month	13	22%
	c) 10001-15000/month	6	10%
	d) More than15000/month	5	8%
Number of children	a) 1	11	18.3%
	b) 2	15	25%
	c) 3	16	28.3%
	d) More than 3	18	29.3%
Place of delivery	a) Primary health centre	0	0 %
	b) Government hospital	43	71.6%
	c) Private sector	2	3.3%
	d) Home delivery	15	25%
Source of information	a) Social media	11	18.3%
	b) Newspaper	4	6.6%
	c) Neighbour	32	53.3%
	d) Health care workers	13	21.6%

Table 1 Shows frequency and percentage of mothers under five children by the demographic character such as: Age of mother, Education of mothers, Income, Number of children, Place of delivery, Sources of information. 41.6% of the mother belongs to age 26- 30 years, only 3.33% belongs to age below 20 years. Maximum mothers 61.6 % were illiterate and only 6.6% were matriculated, 60% had income below 5000/month and 8% had more than 15000/month. 71.6% had delivered in government hospital, 53.3% were used to get information from neighbour and 6.6% were getting from newspaper.

Knowledge among mothers of under five children regarding vaccine preventable diseases before the implementation of Structured Teaching Programme.

Table 2. Pre-test knowledge score of mothers of under five children regarding vaccine preventable diseases.

n= 60

Knowledge level	**Pre-test** Frequency	%	**Mean**	**SD**
Good (17-25 marks)	0	0	5.53	1.96
Average (9-16 marks)	0	0		
Poor (0-8 marks)	60	100		

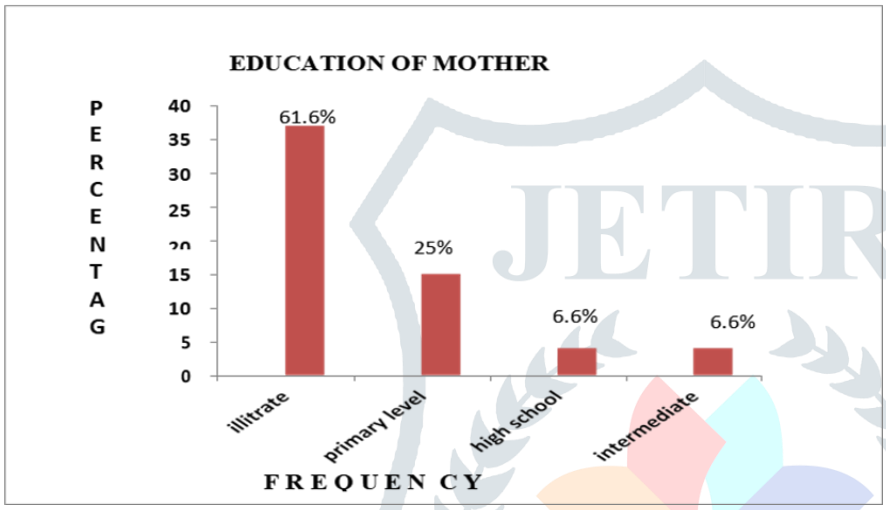

Figure 1: Percentage distribution of mothers of under five children based on their educational status.

Figure 1 shows the Knowledge among mothers of under five children regarding vaccine preventable diseases after the implementation of Structured Teaching Programme.

Table 3. Post-test knowledge score of mothers of under five children regarding vaccine preventable diseases

n= 60

Knowledge level	**Post-test Frequency**	**%**	**Mean**	**SD**
Good (17-25marks)	38	63.33	17.36	1.58
Average (9-16 marks)	19	31.6		
Poor (0-8 marks)	3	5		

Table: 3 show the post knowledge regarding vaccine preventable disease after the implementation of structured teaching programme. That reveals 38 (63.33%) had good knowledge 19 (31.6%) had average knowledge and 3 (5%) had poor knowledge respectively.

Table 4. Comparison between pre-test and post-test knowledge score

n= 60

Effectiveness of STP	**t – test**	**df**	**Significance**
	23.034 6	**6**	(s) (0.05 (2.00)

Table 4 shows that the effectiveness of STP on knowledge level regarding vaccine preventable disease of mothers of under five children. The pre t-test value is 23.034, the tabulated value of 0.05 level (2.00). So the calculated value is higher than the tabulated value. So, it is significant.

The results of the study were as follows:

The mean pre -test knowledge score was 5.53 and SD was 1.96. The mean post -test knowledge score was 17.36 and SD was 1.58. The mean difference between pre- test score and post test score were significant of 0.05 level as the 't'= 23.034. Hence research hypothesis H1 was accepted.

As per the finding of the study among 60 (100%) samples were having poor knowledge, 0 (0%) sample had average and 0(0%) sample had good knowledge level regarding vaccine preventable diseases during the pre-test. The mean pre- test knowledge score of group was 5.53 and standard deviation 1.96 on vaccine preventable diseases, suggest that there is lack of knowledge. As per the finding of the study among 60 samples 3(5%) sample were having poor knowledge, 19 (31.6%) sample had average knowledge and 38(63.33%) sample had good knowledge level regarding vaccine preventable diseases during the post-test. The mean post-test knowledge score of group was 17.36 and standard deviation 1.58 on vaccine preventable diseases. These findings shows that with the administration of structured teaching programme the knowledge score had increased. The pre-test and post-test score was compared with using paired (t) test, (t=23.034 at P<0.05). It was found that there was significant difference between performances in pre- test and post-test, hence the structured teaching programme was effective.

MAJOR FINDINGS OF THE STUDY

The study reveals that 3.33% mothers belongs to age group below 20 year and 40% of mothers belongs to age group of 21-25 year, 41.6% belongs to age group 26- 30 years and 15% belongs to 31-35 years 61.6% mothers were illiterate 25% mother were educated up to primary level, 6.6% were up to high school and 6.6 % were up to intermediate. 60% mothers were having family income below 5000 per month, 22% had income 5001-10000 per month, 10% had income 1001-15000 per month and 8% had more than 15000 per month, 18.3% mothers have 1 child, 25% had 2 children, 28.3% had 3 children and 29.3% had more than 3 children. 25% mother had delivered at PHC, 71.6% had delivered in government hospitals and 3.3% had delivered in private sectors. Source of information for 18.3% mothers was social media, 6.6% was newspaper, 53.3% was neighbourhood and 21.6% was health care workers.

LEVEL OF KNOWLEDGE REGARDING VACCINE PREVENTABLE DISEASES: -

Data reveals that majority of the study participants had poor knowledge where as in post- test 63.33% of the study participants had good knowledge, 31.6% had average and 5% had poor knowledge.

The mean pre-test score was 5.53 and SD was 1.96 and mean post-test score was 17.36 and SD was 1.58. Theses finding shows that with administration of structured teaching programme, the knowledge has increased.

According to National Family Health Survey (NFHS-4) 2015-2016, Vaccination coverage increases with increasing mother's schooling; 70% of children of age 12 to 23 months whose mothers have 12 or more years of schooling have received all basic vaccinations, compared with 52% of children whose mothers have no schooling. [5] The global immunization coverage dropped from 86% 2019 to 83% in 2020. In 2020, the number of completely unvaccinated children increased by 3.4 million.

The global vision and strategy for vaccines and immunization for the decade 2021–2030 has been designed to respond to the interests of every country and intends to inspire and align the activities of community, national, regional and global stakeholders towards achieving a world where everyone, everywhere fully benefits from vaccines for good health and well-being. [6] Immunization Agenda 2030 is operationalized through regional and national strategies and mechanisms to ensure ownership and accountability and a monitoring and evaluation framework to guide country implementation. [7]

NURSING IMPLICATION

Nursing is a dynamic process, which involves quality-based practice, scientific knowledge and dissemination of research knowledge in practice. The present study aids major implications into various areas of nursing to provide knowledge regarding vaccine preventable diseases to mothers who have under five children. The expanded role of a professional nurse emphasizes the activities which promote the health. WHO says nursing have wide scope in primary health area. Health care cannot provide by one agency.

- The field of paediatric nursing has great responsibility to protect the health of children.
- Nurse working in various health care settings are key persons who play a major role in health promotion, health maintenance and prevention of diseases.
- Nurse will be able to efficiently organize health education campaign to all health care setting regarding vaccine preventable diseases to reduce the prevalence of childhood mortality and morbidity.
- Nurses and health care providers play a vital role in motivating the mothers to provide immunization to their children at correct time according to the schedule.
- The Nurse should be equipped with updated knowledge regarding vaccine preventable diseases to impart appropriate knowledge to the community.
- Paediatric nurse needs to take up the responsibility to create awareness among mothers of under five children regarding vaccine preventable diseases to prevent childhood communicable diseases.

In our nursing education curriculum, we are concerned in preventive and promotive aspects. Before giving health education regarding vaccine preventable diseases, it is an essential to understand the need which is present behind it. The nursing personnel working in various health settings should be given in-service education for the student nurse. This will update their knowledge and ability to identify problems of childhood morbidity due to communicable diseases which can be prevented by immunization. There must be adequate guidance, supervision and evaluation of nursing students in conducting STP to provide adequate knowledge regarding vaccine preventable diseases among mothers of under five children in community and in the hospital.

The study emphasizes the need for developing good teaching skills among students nurses on vaccine preventable diseases. The nurse educator can provide an opportunity for student to actively participate in immunization programme. This study can be guidance at point of care regarding vaccine administration and documentation, reviewing and assessing a patient's immunization history.

REFERENCE

1. Mission-indhradhanush (2017) National-Health-Programmes-1. available at https://vikaspedia.in.
2. Training for mid-level managers module 7 the EPI coverage survey; W H O (2020) Available from https://creativecommons.org.
3. Jean-LE, Lois D, Jerome HK. (2021) Supply and delivery of vaccines for global health, Current Opinion in Immunology. 71:13–20. https://pubmed.ncbi.nlm.nih.gov/33845349/
4. WHO/UNICEF national immunization coverage estimates, (2021) revision. https://data.unicef.org/topic/child-health/immunization/
5. Immunization coverage. (15 July 2021). https://cdn.who.int/media/docs/default-source/immunization/immunization-coverage/user_ref_country_reports.pdf.
6. Immunization Agenda 2030: A Global Strategy to Leave No One Behind. (April 1st 2020) Available at https://www.who.int/teams/immunization-vaccines-and-biologicals/strategies/ia2030.
7. Implementing the Immunization Agenda 2030: A Framework for Action. (7th January 2021): https://www.who.int/publications/m/item/implementing-the-immunization-agenda-2030.