

A Pre-Experimental Study to Assess the Effectiveness of Structured Teaching Programme in terms of Knowledge Gain Regarding Pneumococcal Conjugate Vaccine Among Mothers of Under Five Children in Selected Area at Charama Kanker (C.G.)

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Abstract: A pre-experimental study to assess the effectiveness of structured teaching programme in terms of knowledge gain regarding pneumococcal conjugate vaccine among mothers of under five children in selected area at Charama Kanker (C.G.)” 60 mothers were selected. To assess the pretest and post-test knowledge score, to assess the effectiveness of structured teaching programme and to find out the association between pretest knowledge score with their socio demographic variables. Pneumococcal infections are the leading cause of childhood mortality and morbidity globally and it causes an estimated 2 million death among under five children. WHO estimated that 10.6 million children less than 5 years of age suffer from pneumococcal infections. Data collection was done through structured knowledge questionnaire. By utilizing one group pre-test and post-test research design with an evaluative approach. The study revealed that, in the pre-test 22(36.7%) mothers are having poor knowledge 37(61.7%) of them were having average knowledge 1(1.6) of them were having good knowledge and none of them were having excellent knowledge. The findings of the study after structured teaching programme showed that the highest percentage 49(81.7%) of them having good knowledge on Pneumococcal conjugate Vaccine, 9(15%) of them having excellent knowledge. Only 2(3.3%) were having average knowledge and none of mothers were having poor knowledge. this indicate that the majority of mothers had good knowledge on Pneumococcal conjugate Vaccine in post-test. The calculated value of Chi square for educational status of mother's 17.761 (p=0.023) for occupational status of mother's 35.95(p=0), for occupational status of father's 13.474(p=0.036), for source of information 62.971 (p=0) significant at 0.001 level of significant which show significant association with pretest knowledge.

Keywords: knowledge, mothers of under five children, pneumococcal conjugate vaccination.

1. Introduction

Pneumococcal disease is the name given to a group of

diseases caused by a bacterium called Streptococcus pneumoniae, (also known as pneumococcus). Pneumonia is caused by a number of infectious agents, including viruses, bacteria and fungi. The most common are: Streptococcus pneumoniae – the most common cause of bacterial pneumonia in children; These bacteria cause infections in the blood, middle ear (Otitis media), sinus cavities (Sinusitis) and the respiratory tract. Children under 5 years of age and especially those under 2 years of age are most at risk of developing and dying from pneumococcal disease. Case fatality rates may be up to 20% for pneumonia. Pneumococcus is transmitted by respiratory secretions of people carrying pneumococcus in their nose or throat.

2. Need of the Study

Pneumonia is the single largest infectious cause of death in children worldwide. Pneumonia killed 740 180 children under the age of 5 in 2019, accounting for 14% of all deaths of children under 5 years old but 22% of all deaths in children aged 1 to 5 years. Pneumonia affects children and families everywhere, Children can be protected from pneumonia, it can be prevented with simple interventions like vaccination, and it can be treated with low-cost, low-tech medication and care.

3. Objectives of the study

1. To assess the pretest knowledge score and post-test on knowledge score regarding Pneumococcal conjugate vaccine among mothers of under five children.
2. To assess the effectiveness of structured teaching programme in terms of knowledge gain regarding Pneumococcal conjugate vaccine among mothers of under five children.

3. To find out the association between pretest knowledge score regarding pneumococcal conjugate vaccine among mothers of under five children with their socio demographic variables.

4. Hypotheses

H1: There will be significant differences between the pre-test and the post-test knowledge scores of mothers under five children regarding Pneumococcal conjugate vaccine as measured by knowledge questionnaire at $p \geq 0.05$ level.

H2: There will be significant association between pretest knowledge score regarding Pneumococcal conjugate vaccine among mothers of under five children with their selected socio demographic variables.

5. Conceptual Framework

The conceptual framework for this study was derived from general system model given by von Ludwig bertalanffy 1968. According to this theory, a system is asset of components or unites inter acting with each other with in a boundary that filters the type and rate of exchange with the environment. All living systems are open in that there is a continual exchange of matters, energy and information. In open system there are varying degrees of interaction with the environment from which the system receives input and gives back output in the form of matter energy and information.

6. Methodology

A Pre-experimental research design was adopted for this study. A quantitative research approach is used. purposive sampling technique was adopted to select 60 mothers of under five children in selected area at Charama Kanker (C.G.). by using non probability convenient sampling. A self-structured tool to assess socio demographic variables and self-structured questionnaire was used to assess response (qualitative) regarding assess the knowledge regarding pneumococcal conjugate vaccination among mothers of under five children. Qualitative data was collected using self-structured questionnaire with 60 mothers of under five children and the responses were recorded. Collected data was analyzed using Descriptive statistics (mean, mean score%, SD). Inferential statistics (chi square, (r) value). Qualitative findings suggest excellent, good, average, and poor knowledge of pneumococcal conjugate vaccination among mothers of under five children.

7. Result and Discussion

Section-A: Distribution of subjects according to socio-demographic variables using frequency percentage

The finding regarding age of mothers reveal that 23 (38.30%) mothers were belonged to age 21-25 years, 28 (46.70%) mothers were of the age group 26-30 years, 8(13.30%) mothers were belonged to age 31-35year and (1.70%) mothers were belonged to age $36 \geq$ year. The findings regarding religion indicates that majority of mother i.e., 58(96.60%) were Hindus, 1(1.70%) were Christians 1(1.70%) were Muslims and others were 0. The findings regarding types of family that 31 (51.70%) mothers were from nuclear families and 29 (48.30%) were from joint families. The findings regarding Number of children that 24 (40%) mothers have one child 30(50%) mother have two children and 6 (10%) mothers have more than two children. In education of mother finding revealed that majority of the mother's i.e., 24 (40%) were higher secondary school, 22(36.60%) were graduate and P.G. 10 (16.70%) were high school 3(5%) primary and middle school and only1 (1.70%) were not formal education. In occupation of mother findings revealed that mother's i.e., 45 (75%) were in house wife, 7 (11.70%) were private job, 5 (8.30%) were government employee, and 3 (5%) have business. In relation to education of father finding revealed that majority of father's i.e., 29 (48.30%) have business, 24 (40%) were private job, 5 (8.30%) were government job, and 2 (3.40%) were farmer. In sources of information 50 (83.30%) mothers were knowledge from Health worker/doctor 6 (10%) mothers were knowledge from social media 3 (3.3%) mothers were knowledge from Relatives 1 (1.70%) mothers were knowledge from Newspaper and only 1 (1.70%) mothers were knowledge from Neighbours.

Section-B: To assess the pre-test and post-test knowledge scores regarding pneumococcal conjugate vaccine among mothers of under five children in selected area at Charama Kanker (C.G.)

Table 1 (Fig. 1) Show that pre-test and post –test knowledge score regarding Pneumococcal Conjugate Vaccine among mothers of under five children. In the pre-test 22 (36.7%) mothers are having poor knowledge 37 (61.7%) of them were having average knowledge 1 (1.6) of them were having good knowledge and none of them were having excellent knowledge. Where as in post-test none of mothers were having poor knowledge. only 2 (3.3%) were having average knowledge 49 (81.7%) of them having good knowledge and 9 (15%) of them having excellent knowledge. Hence it is concluded that in pre-test, majority of mothers are having average knowledge 37(61.7%) but after giving structure teaching programme the knowledge of mothers increased and majority of mothers knowledge become good knowledge 49(81.7%).

Table 1
Overall analysis of knowledge score of mothers of under five children regarding Pneumococcal Conjugate Vaccine

Level of knowledge	Pre-test		Post - test	
	Frequency (n)	Percentage (%)	Frequency (n)	Percentage (%)
Poor (0-10)	22	36.7%	0	0.0%
Average (11-20)	37	61.7%	2	3.3%
Good (21-30)	1	1.6 %	49	81.7%
Excellent	0	0.0%	9	15%
Total	60	100	60	100

Table 2
Association between pre - test knowledge scores with socio-demographic variables

S.No.	Socio demographic variables	Chi square value	DF	Critical value	Significance
1	Education of mother	17.761	6	12.59	p>0.05 S
2	Occupation of mother	35.95	6	12.59	p>0.05 S
3	Occupation of father	13.474	6	12.59	p>0.05 S
4	Source of information	62.971	6	12.59	p>0.05 S

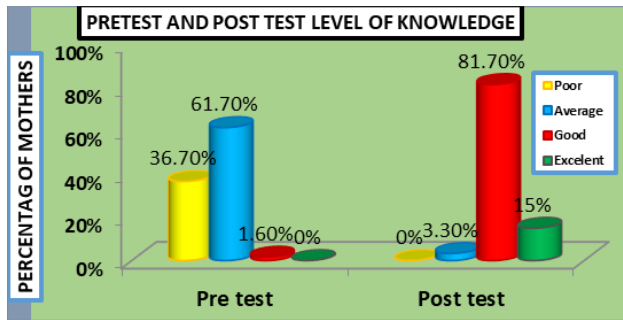


Fig. 1. Percentage distribution of pre - test and post - test knowledge scores regarding Pneumococcal Conjugate Vaccine among mothers of under five children

Section-C: To assess the effectiveness of structured teaching programme regarding pneumococcal conjugate vaccine among mothers of under five children in selected area at Charama Kanker (C.G.)

In Pre-test knowledge level mean score is 11.8, and S.D is 4.2 regarding Pneumococcal Conjugate Vaccine. In post-test knowledge level mean score is 25.8, and S.D is 4.1 regarding Pneumococcal Conjugate Vaccine. For effectiveness the pre-test and post-test knowledge scores regarding Pneumococcal Conjugate Vaccine among mothers of under five children as calculated “t” value (35.94) which is significant at 0.001 level, so alternative hypothesis is accepted.

Section-D: To find out the association between pre-test knowledge scores and their selected socio-demographic variables regarding pneumococcal conjugate vaccine among mothers of under five children in selected area at Charama Kanker (C.G.)

Table 2 show the association between pre-test knowledge scores regarding Pneumococcal Conjugate Vaccine among mothers of under five children and their socio-demographic variables i.e., educational status, Occupation of mother, Occupation of father, source of information. the association between pre-test knowledge of mother’s demographic variable was analysed by chi-squared test. The calculated value of Chi square for educational status of mother’s 17.761 ($p = 0.023$) at 0.05 level of Significant which show significant association with pretest knowledge. The calculated value of Chi square for occupational status of mother’s 35.95 ($p = 0$) Significant at 0.05 level of Significant which show significant association with pretest knowledge. The calculated value of Chi square for occupational status of father’s 13.474 ($p = 0.036$) significant at 0.05 level of Significant which show significant association with pretest knowledge. The calculated value of Chi square for source of information 62.971 ($p = 0$) significant at 0.05 level of Significant which show significant association with pretest knowledge. Hence it is concluded that education of mother, occupation of mother, occupation of father, source of information is associated with pre-test level of knowledge and

age of mother, religion, type of family, number of children are not associated with pre-test level of knowledge.

8. Discussion

In the present study 60 mothers was evaluated Table 1 the findings of the pre-test study Show that knowledge score regarding Pneumococcal Conjugate Vaccine among mothers of under five children. In the pre-test 22 (36.7%) mothers are having poor knowledge 37 (61.7%) of them were having average knowledge 1 (1.6) of them were having good knowledge and none of them were having excellent knowledge.

The findings of the study after structured teaching programme showed that the highest percentage 49 (81.7%) of them having good knowledge on Pneumococcal conjugate Vaccine, 9 (15%) of them having excellent knowledge. only 2 (3.3%) were having average knowledge and none of mothers were having poor knowledge. This indicate that the majority of mothers had good knowledge on Pneumococcal conjugate Vaccine in post-test.

The above finding of the study are in line with the study conducted by P Karesh, S Ankita, et al (2019) The result revealed that Analysis of pre-test knowledge score of mother regarding PCV vaccines was done majority of the 42(84%) mothers are having average knowledge, 8(16%) mothers are having poor knowledge. Analysis of post-test knowledge score of mothers regarding PCV vaccines was done majority of the 45(90%) mothers are having good knowledge, 5(10%) are having average knowledge.

9. Conclusion

The study reveals that mother's level of knowledge is increased after giving structured teaching programme and the socio demographic variables- education of mother, occupation of mother, occupation of father, source of information was significantly associated with pre-test level of knowledge and age, religion, type of family, no. of children were not significantly associated with pre-test level of knowledge. Hence the structured teaching programme is an effective method to increase the level of knowledge among mothers of under five children.

References

- [1] Dutta Parul. A Textbook of Pediatric Nursing II edition, Published by Jaypee Brothers Medical Publishers, Page no. 36.
- [2] Ghai O. P. Essential Pediatrics, 4th edition New Delhi: Jaypee Brothers Medical Publisher (P) Ltd., 2010, p. 184.
- [3] Marlow R Dorothy. Text book of pediatric nursing. 6th edition Philadelphia: Saunders Co, 1998, pp. 768.
- [4] Park K., Preventive and Social Medicine, 21 Edition, Jabalpur, Banarsidas Bhonat; 2009, p. 262
- [5] Polit Denise F. and Chery Tatano Beck. Nursing Research- Principles and Methods. 7ed. New Delhi, 88-111.

- [6] Sharma Rimple. A Textbook of Essentials of Pediatric Nursing 1st edition: Jaypee Brothers Medical Publishers, Page. no. 267-270.
- [7] Suresh K Sharma. Text book of nursing research and Statistics. 3rd edition Haryana, Elsevier Publishers, p. 442, 2011.
- [8] Wongs, Text Book of Essentials of Pediatric Nursing, Edition 2nd, Elsevier Publication South Asian, 2015, Page No. 517.
- [9] Jose J, Lobo MR, Nisha K, Shilpa GS, Umarani J. "Awareness on Immunization among Mothers of Under-five Children" International Journal of Innovative Research & Development, 2013; 2:620-627.
- [10] Juliet Tharani, "Effectiveness of Planned Teaching Program on the Knowledge of Immunization Among Mothers of Under Five Children," International Journals of Current Research, Vol. 9, July 2017.
- [11] Sharmin K. Luies, Md. Tarek Hossain, and Haribondu Sarma, "Awareness Among Parents about Pneumococcal Conjugate Vaccine in Routine Immunization Program to Prevent Pneumococcal Pneumonia," PMC, volume 11(11), Nov. 2019.