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EFFECT OF STRUCTURED TEACHING ON KNOWLEDGE REGARDING PNEUMONIA AMONG MOTHERS OF UNDER FIVE CHILDREN OF ROHTAK, HARYANA

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ABSTRACT

Background: Pneumonia is the single largest infectious cause of death among children worldwide. Pneumonia accounts for 15% of all deaths of children under 5 years of age and killed 8 lakh children in 2017. There is multifactorial causation associated with increased susceptibility of childhood pneumonia. Structured teaching program will effectively improve mortality related with pneumonia as it increases the awareness among mothers regarding causes, prevention and management of pneumonia.

Methodology: An interventional study was conducted in village Kanheli of district Rohtak from January to, March 2017. Total 95 mothers, selected by consecutive sampling technique were included in the study and pre- test and post test was taken by using self-structured, pretested interview schedule. Intervention in the form of structured teaching was administered to increase the knowledge of mothers.

Results: This study revealed that mothers had inadequate knowledge regarding prevention and management of pneumonia and structured teaching program had significantly increased their knowledge. Mean difference between the pre-test and post-test score was found to be 5.3, with a T value of 24.34, which was found to be statistically significant(p-value = 0.001).

Conclusion: This study concluded that there was lack of knowledge regarding pneumonia among mothers and structured teaching program was found to be effective in increasing their knowledge regarding prevention and management of pneumonia.

KEYWORDS : Pneumonia, knowledge, structured teaching

INTRODUCTION

Pneumonia is an acute respiratory tract infection. Pneumonia is the single largest infectious cause of death among children worldwide.[1] Pneumonia accounts for 15% of all deaths of children under 5 years of age and killed 8 lakh children in 2017.[1] Pneumonia affects children and families everywhere. In 2018, globally, there were over 1400 cases of pneumonia per 100,000 children or 1 case per 71 children every year, with highest incidence occurring in south east Asia(2500 cases per 100,000 children), western and central Africa(1620 cases per 100,000 children).[2] Children having pneumonia can be protected and treated with low-cost care and low-tech medication.[1]

Pneumonia is caused by number of infectious agents which include viruses, bacteria and fungi. The viruses and bacteria that are commonly found in child's nose and throat can infect the lungs if they are inhaled. They may also spread via air-borne droplets from a cough or sneeze. In addition, pneumonia may spread through blood, especially during and shortly after birth.[1] Children whose immune system is compromisedare at higher risk of developing pneumonia. A child's immune system may be weakened by malnutrition or undernourishment, especially in infants who are not exclusively breastfed. Pre-existing illnesses and infection like HIV, measles may also increase the child's susceptibility of contracting pneumonia.[1] Different environmental factors like overcrowding, lack of safe drinking water and sanitation, indoor air pollution, parental smoking, inadequate access to

health care are strongly linked with increased susceptibility of acquiring pneumonia and mortality due to childhood pneumonia.[1,2] The indoor air pollution kills more children globally than outdoor air pollution.[2]

Preventing pneumonia in children is important to reduce child mortality. Immunization against Hib, Pneumococcus, measles and whooping cough(pertussis) is most effective way to prevent pneumonia.[1] Adequate nutrition is key to improving children's natural defenses, starting with exclusive breastfeeding for the first 6 months of life.[1] Addressing environmental factors such as indoor air pollution(by providing affordable clean indoor stoves) and encouraging good hygiene in crowded homes also reduces the incidence of pneumonia.[1]

The WHO and UNICEF integrated Global action plan for pneumonia and diarrhea (GAPPD) aims to accelerate pneumonia control with a combination of intervention to protect children's health, prevent disease and appropriately treat children who get diarrhea and pneumonia with actions to: **Protect** children from pneumonia including promoting exclusive breast feeding and adequate complimentary feeding; **Prevent** pneumonia with vaccinations, handwashing with soap, reducing indoor air pollution; **Treat** pneumonia focusing on making sure that every sick child has access to the right kind of care either from a health worker or in a health facility.

In India, acute respiratory infection (ARI) is a major public health problem, especially in the age group0-5 yearscontributing 15-30% of all deaths in this age group and most of these deaths are preventable with timely identification of symptoms and early treatment.[3]In developing countries like India only about $1/5^{th}$ of caregivers properly recognize the symptoms associated with pneumonia.[4] As mothers or caregivers fail to identify the seriousness of the illness , substantial number of children having pneumonia do not get timely access to adequate health services.[5]

Structured teaching program will effectively improve mortality related with pneumonia as it increases the awareness among mothers regarding causes, prevention and management of pneumonia. Thus, this study was planned to assess the effect of structured teaching on knowledge regarding causes, prevention and management of pneumonia among mothers of under five children of village Kanheli, Rohtak, Haryana.

MATERIAL AND METHODS
An interventional study was conducted in village Kanheli of district Rohtak, Haryana after seeking permission from the institute.Study populationconsisted of mothers of children under five years of age. All mothers available in the family who had children under 5 years of age during study period and were willing to give consent to participate in study were included in the study. Study samples were selected using consecutive sampling technique.

Data was collected from Jan-Mar 2017. Informed written consent was taken from the participants before study. Pre-test was doneby interviewer herself by interviewing mothers as per study tool for assessing the knowledge of mothers regarding prevention and management of pneumonia. Intervention in the form of structured teaching was administered to increase the knowledge of mothers. Post test was conducted by using the same tool.

Study tool: Self-structured pretested interview schedule consisting of two sections,one about demographic data and second having 30 items to assess the knowledge of mothers regarding pneumonia. Each item had score of one and overall grading was done in following way:
- Inadequate knowledge 0-15
- Moderate knowledge 16-23
- Adequate knowledge 24-30

Descriptive and inferential statistics was used to analyze the data. Effectiveness of structured teaching program was analyzed by paired t test.

RESULTS AND DISCUSSION
A total of 95 study participants were included in the study, with maximum(42%) participants belonging to age group of 21-30 years followed by 37.89% in more than 40 years age group. 69.47% of study subjects belonged to joint family and 30.52% from nuclear family. Regarding education, maximum (23.15%) were educated up to primary school level with details as described in table 1.

Table 1: distribution of study participants as per demographic characteristics(N=95)

Demographic variable	Frequency	Percentage
Age of mothers		
Under 20 years	14	14.73%
21-30years	40	42.10%
31-40 years	5	5.26%
>40 years	36	37.89%
Type of family		
Nuclear	29	30.52%
Joint	66	69.47%
Mothers/caretaker education		
Illiterate	15	15.78%
Primary school	22	23.15%
High school	18	18.94%
Senior secondary	20	21.05%
Graduate and above	20	21.05%

Regarding the knowledge about pneumonia, 69.47% of mothers had inadequate knowledge, 25.26% had moderate knowledge and 5.26% had adequate knowledge in the pre-test. After administration of structured teaching program 14.73% of mothers had inadequate knowledge and 68.4% had moderate knowledge and 16.84% had adequate knowledge in the post-test as described in table 2.

Table 2: Distribution of study participants as per pre-test and post-test regarding knowledge about pneumonia (n=95)

KNOWLEDGE LEVEL	PRE-TEST FREQUENCY (%)	POST-TEST FREQUENCY (%)
INADEQUATE	66(69.47%)	14(14.73%)
MODERATE	24(25.26%)	65(68.42%)
ADEQUATE	5(5.26%)	16(16.84%)

On evaluating the knowledge of mothers before giving structured teaching it was observed that mean score of knowledge regarding pneumonia was 13.22 ± 4.87 which was falling under the category of inadequate knowledge. After the structured teaching programme the knowledge was reassessed and now mean score was found to be 18.52 ± 4.54. Mean difference between the two was found to be 5.3, with a T value of 24.34, which was found to be statistically significant(p-value=0.001) as described in table 3.

Table 3: Effectiveness of structured teaching programme on knowledge score regarding pneumonia

	PRETEST		POST TEST		MEAN DIFFERENCE	T VALUE	DF	p-value
	MEAN	SD	MEAN	SD				
KNOWLEDGE	13.22	4.87	18.52	4.54	5.3	24.34	94	0.001

Regarding the effect of educational status on posttest assessment of knowledge, it was observed that there was statistically significant increase in the knowledge level post structured teaching programme as described in table 4.

Table 4: Distribution of study participants according to their knowledge alongwith educational status

Variable	Pretest knowledge			Chi square value	Post test Knowledge			Chi square value
	Inadequate	Moderate	adequate		inadequate	Moderate	adequate	
Educational status								
Illiterate	10	05	00	11.18(p-value>0.05)	02	13	00	36.57(p-value<0.05)
Primary	17	04	01		05	14	03	
Middle	13	04	01		04	12	02	
Senior secondary	16	04	00		02	03	15	
Graduate and above	08	10	02		01	09	10	

This study revealed that mothers had inadequate knowledge regarding prevention and management of pneumonia and structured teaching program had significantly increased theirknowledge. Similar results were reflected in study conducted by Abass N etal at El-RamalPediatric hospital,Egypt where they observed mean score difference of 1.60 ± 0.97 , with t value 27.10 which is statistically significant (p = .0001).[6] Another study conducted by Kumawat K H in Pipria at Vadodra city showed that mean difference in pre and post-test was 8.93 ± 2.4, with t value 9.83 which was statistically significant (p=0.05).[7]

Conclusion and Recommendations
This study concluded that there was lack of knowledge regarding pneumonia among mothers and structured teaching program was found to be effective in increasing their knowledge regarding prevention and management of pneumonia. Mothers had a significant gain in knowledge regarding pneumonia. Similar studies can be carried out on a larger sample for generalizing the findings.

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