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Original Research Article

Effectiveness of structured teaching programme on knowledge regarding acute respiratory tract infections among mothers of under five children in selected rural area

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ABSTRACT

Background: Acute respiratory tract infections cause the death of 4 million children under the age of 5 (annually). The factors of acute respiratory tract infections can be grouped into two categories, namely host and environment. Host includes factors such as malnutrition, immunization status, vitamin A deficiency, absence of breast-feeding, low birth weight and young age.
Methods: Quasi experimental one group pre-test-post-test research design was adopted to conduct the study among 45 mothers of under five children residing in Mati, Rural area of Lucknow, Uttar Pradesh, who matched the inclusion criteria were selected through non-probability purposive sampling technique. On first day one pre-test followed by structured teaching programme was conducted and after seventh day post-test was taken. The data was analysed using descriptive and inferential statistics.
Results: The results revealed that the mean post-test knowledge score was higher than mean pre-test knowledge score with standard deviation 15.31±1.84 and 7.06±1.25 respectively. The improvement of knowledge score is the mean difference of 8.25 which shows that there was a significant change in knowledge level of mothers of under five children.
Conclusions: The study concluded that the structured teaching programme was effective in improving the level of knowledge regarding acute respiratory tract infections among mothers of under five children.

Keywords: Acute respiratory tract infections, Effectiveness, Knowledge, Mothers of under five children, Rural area, Structured Teaching Programme

INTRODUCTION

Children under the age of 5 years are grouped with the mothers considering as vulnerable and risk group comprising about 32 percent of total population in India. It includes all infections of less than 30 days duration, except the infection of the ear lasting less than 14 days. The incidence of ARI is highest in young children, especially below 5 years of age and decreases with the increasing age.[1] In India, ARTI is one of the major causes of childhood death. It is also one of the main reasons that children are delivered to the hospitals and health facilities. In India, year 2001 were outpatients attendance attributed to acute respiratory tract infections was so high as 20 to 40 %in all the clients and 12 to 35% of in clients.

Children all over the world suffering from frequent cough and cold, but in developing countries the life threatening

due to pneumonia, that are the leading cause of death among under five children.[2,3]

It was estimated that 15 million deaths of under-five children were occurring in the world annually, where 14 million occur in developing countries. Among this 14 million deaths, approximately one-quarter to one- third are due to acute respiratory tract infections. In India 7,80,000 deaths among under-five children annually are due to acute respiratory tract infections. By using standard techniques 70 per cent of lives currently being lost due to acute respiratory tract infections could be saved.[4] Each year young children throughout the world experience four to eight episodes of respiratory tract infections amongst which major episodes are limited to upper respiratory tract infections. Mainly pneumonia is very high in developing countries. Younger children have a higher incidence, but children between the age of 2 and 5 years are mostly affected in the same population. Below the age of 1year, children may have a 1.5 to 2.5 fold higher incidence.[5]

Objective was to study effectiveness of structured teaching programme on knowledge regarding acute respiratory tract infections among mothers of under five children.

METHODS

A quantitative approach was selected for the present study. It was quasi experimental one group pre-test and post-test design among 45 mothers of under five children. The study was conducted at mati (rural area), Lucknow, Uttar Pradesh. The study population includes mothers of under five children who met the designated inclusion criteria. The estimated sample size is 70 (calculated by power analysis). Purposive sampling technique was used in the study.

Formula: $n= z^2Pq \div d^2$

Where n is sample size.

Z is confidence interval: 95% (z= 1.96)
P is population proportion= 25%
D is precision or error (10% i.e.0.01)

Note*: Due to covid-19 pandemic condition sample size will be 45 in the study.

Inclusion criteria

Mothers who are available AND willing to participate in the study, who have under five children and who are residing in selected rural area were included in the study.

Exclusion criteria

Mothers who are critically ill and suffering with mental disorder were excluded in the study.

Part A

Socio-demographic variables

This section consists of 16 items related to socio demographic variables it is used to check the correlation between study and experimental group with selected demographic variables of the mothers of under five children. The demographic profile included such as age of mother, marital status, number of under five children, type of house, educational qualification, occupation, religion, monthly income, source of ventilation, drainage system, source of water, having any pet animal, source of information, previous knowledge regarding prevention of acute respiratory tract infection and health services availed from.

Part B

Self structured questionnaire

This section consists of 20 items related to knowledge regarding acute respiratory tract infections and its prevention mothers of under five children in selected rural area.

Development of intervention

The structured teaching programme was prepared under the following headings Definition, Classification, Common cause, Mode of transmission, signs and symptoms, Management, Prevention and Complications of acute respiratory tract infections.

Data collection

The data was collected through structured knowledge questionnaire among mothers of under five children for duration of 45 days from 01st March 2021 to 17th April 2021.

Ethical aspects

The study was carried out after obtaining ethical clearance from Institutional Ethics Committee of King George's Medical University, Lucknow and other administrative permission was also taken prior to the study. Informed consent was taken by all the potential participants and freedom was given to withdraw from the study at any time. They were assured confidentiality and safety of the data provided by them.

RESULTS

Table 2 depicts that, in pre-test area wise maximum mean percentage (51%) was found in item no. 4 i.e. mode of transmission and mean and SD was (0.51±0.48), where as in post teat maximum mean percentage (80.66%) was found in item no. 7 i.e. prevention the mean and SD was (2.42±0.39).

Table 1: Description of frequency and percentage distribution of socio-demographic variables (n=45).

Variables	Categories	Frequency	Percentage
Age in years	Below 25	15	33.3
	26-30	18	40
	More than 30	12	26.6
Educational level	Primary education	15	33.3
	Secondary education	10	22.2
	Graduation	5	11.1
	Illiterate	15	33.3
Marital	Married	35	77.7
	Widow	10	22.2
Number of under five children	One	17	37.7
	Two	20	44.4
	More than three	8	17.7
Monthly family income	Below 5000	10	22.2
	5001-10000	15	33.3
	10001-15000	15	33.3
	Above 15001	5	11.1
Religion	Hindu	36	66.6
	Muslim	7	15.5
	Christian	2	4.4
	Other	0	0
Occupation status	Private job	10	22.2
	Government job	0	0
	Home maker	25	55.5
	Former	10	22.2
Type of house	Kucca house	10	22.2
	Pucca house	20	44.4
	Semi pucca house	15	33.33
Any pet animal	Yes	15	33.3
	No	30	66.6
If yes, animal shelter	Outside	5	11.1
	Inside	10	22.2
Source of ventilation	Door	8	17.7
	Door and window	22	48.8
	Chimney	4	8.8
	Other	11	24.4
Source of water	Tab water	5	11.1
	Hand pump	25	55.5
	Submersible water	15	33.3
Type of drainage	Open	35	77.7
	Close	10	22.2
History of illness	1-2 times	5	11.1
	3-5 times	20	44.4
	6-8 times	20	44.4
Common cause of illness	Cold, cough	15	33.3
	Fever	10	22.2
	Diarrhea	15	33.3
Heard of ARTI	Pneumonia	5	11.1
	Yes	20	44.4
Source of information	No	25	55.5
	Newspaper	3	0.15
	Communication media	7	0.35
	Friend	3	0.06

Continued.

Variables	Categories	Frequency	Percentage
Health services	Health employee	6	0.3
	Primary health center	12	26.6
	Sub-center	10	22.2
	CHC	8	17.7
	Private hospital	15	33.3

Table 2: Area wise mean, standard deviation and mean percentage of pre- test and post-test knowledge score of mothers (n= 45).

Area	Max	Mean		SD		Mean %	
	Scre	Pre and post		Pre and post		Pre and post	
Definition	1	0.44	0.75	0.5	0.43	44	75
Classification	3	1.11	2.31	0.48	0.42	37	77
Causes	4	1.35	3.04	0.47	0.42	33.75	76
Mode of transmission	1	0.51	0.77	0.48	0.42	51	77
Sign and symptoms	3	1.06	2.26	0.48	0.43	35.3	75.33
Management	4	1.37	2.95	0.47	0.44	34.25	73.75
Prevention	3	1.02	2.42	0.47	0.39	34	80.66
Complications	1	0.33	0.8	0.47	0.4	33	80

Effectiveness of structured teaching programme by comparing the pre-test and post-test knowledge scores of subjects.

Table 3: Comparison of pre-test and post-test knowledge scores of subjects (n=45).

Knowledge score	Mean	Standard deviation	Paired	
			Df	t- value
Pre-test	7.06	1.25	44	9.81
Post-test	15.31	1.84		

Level of significance (P <0.05)

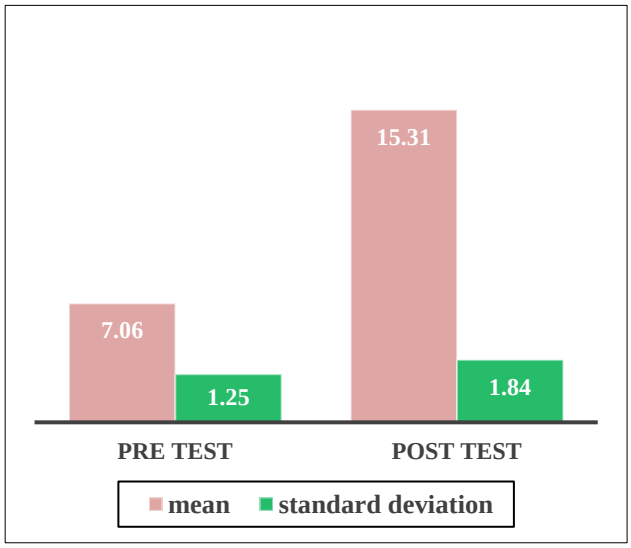

Figure 1: Comparison of pre-test and post-test knowledge scores of subjects.

The researcher calculated the paired t-test value and compared the calculated t- value (9.81) with the tabulated value (2.26) on 44 degree of freedom. The calculated value lies beyond the tabulated value and this result shows that there was significant change in the knowledge level of adult population in post-test. So, this is evident that the structured teaching programme on knowledge regarding acute respiratory tract infections was found effective in terms of knowledge.

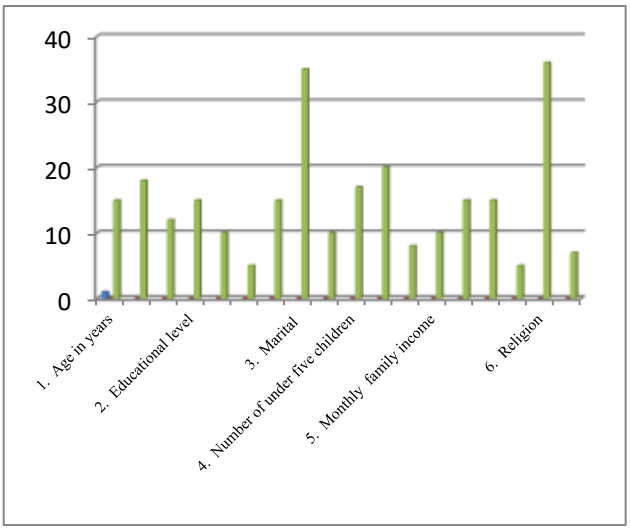

Figure 2: Description of frequency and percentage distribution of socio-demographic variables.

DISCUSSION

In relation of age majority of mothers (40%) are aged between 26 -30 years, (33.33%). In relation of number of under five are majority of (44.44%) of mothers were having i.e. one. In relation of education majority (33.3%) of mothers of under five children were having primary education. In relation of marital status (77.7%) of mothers

of under five were married. In relation of monthly income (33.3%) were having Rs 5001-10000.

In the study (80%) of mothers of under five children were Hindu. In relation of occupation (55.5%) of mothers were home maker. In relation of type of house (44.4%) were having pucca house. In relation of pet animal (66.6%) were not having any pet animal, (33.3%) were having pet animal. (22.2%) of pet shelters were having inside the house. In relation of source of ventilation (48.8%) were having door and window. In relation of source of water (55.5%) were having hand pump. In relation of type of drainage (77.7%) were having open drainage system. In relation of illness history (44.4%) under five children were ill 3-5 times in a year. In relation of common causes of illness (33.3%) were cold and cough. In relation of previous information (55.5%) were not heard about ARTI, (44.4 %) were heard ARTI. In relation of source of information (44.4%) of mothers were having information from communication media. In relation of utilization of health services (33.3%) were utilizes private health care services.

Effectiveness of structured teaching programme regarding acute respiratory tract infection among mothers of under five children.

The researcher calculated the paired t-test value for the tabulated and compared the calculated t- value (9.81) with the tabulated value (2.26) on 44 degree of freedom at p <0.05 level of significance. The calculated value lies beyond the tabulated value and this result shows that there was significant change in the knowledge level of mothers of under five children in post-test. So, this is evident that the structured teaching programme on knowledge regarding acute respiratory tract infections was effective in terms of knowledge. The above mentioned findings are supported by following study.

These findings are supported by the similar study conducted by Kavungal T, which was highly improved the calculated paired 't' test value was 19 and the tabulated 't' value was 2.05.[6] that findings proved that there is a significant improvement in post test score when campared to pre-test score, so the structured teaching programme on acute respiratory tract infections was effective among mothers of under five children.[6]

Limitations

During data collection period, some of the study participants were reluctant to participate in the study due to covid-19 pandemic. The study was limited to the mothers who have under five children only.

CONCLUSION

The result shows that the level of knowledge of subjects regarding acute respiratory tract infections was poor in the pre-test when compared to the post-test. The study finding proved that the structured teaching was effective in improving the knowledge among mothers of under five children regarding acute respiratory tract infections. So it is concluded that there is a need of providing proper information and education regarding acute respiratory tract infections, its sign and symptoms, complications, use of preventive measures and its importance. The health care provider should provide health education to improve the knowledge.

Recommendations

A similar study can be conducted with a larger sample for the purpose of generalization, or to assess the knowledge regarding dengue fever and its preventive measures among different age group of population. The study can be conducted using different research design.7

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