

EFFECTIVENESS OF STRUCTURED TEACHING PROGRAMME ON KNOWLEDGE OF MOTHERS OF CHILDREN AGED 6 -12 YEARS REGARDING TYPHOID FEVER

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ABSTRACT

Introduction: Typhoid Fever is still common in the developing world, where it affects about 21.5 million persons each year. Typhoid Fever can be prevented and can usually be treated with antibiotics. The present study was aimed to assess the knowledge of mothers and the effect of structured teaching programme regarding typhoid fever. **Material and methods:** In present study, quantitative approach and pre-experimental design were considered. In the study, one group pretest post test design was applied. The present study was conducted among mothers of children between 6-12 year at CHC, Sanganer, Jaipur. In the study, 60 mothers of children between 6- 12 years who came to CHC, Sanganer, Jaipur were selected for the study by convenient sampling technique. **Results:** The mean pretest and posttest knowledge scores were 12.52 ± 2.19 and 22.20 ± 3.41 respectively. The calculated 't' test score was 27.19 which represent that there was a highly significant ($p < 0.00001$) difference between mean pretest and posttest knowledge scores among the mothers towards typhoid fever. **Conclusion:** The structured teaching programme was significantly effective in enhancing the knowledge of the mothers towards typhoid fever. There is a need to implement such educational program to aware the mothers towards diseases.

KEYWORDS: Effectiveness, Structured teaching programme, Knowledge, Mothers, Typhoid fever.

INTRODUCTION

Child is greatest gift to everyone that we will ever receive. In turn we must give unconditional love, values, skills and abilities, secures surrounding and good health to the child. Healthy children are the wealth of the nation. Typhoid fever is an acute generalized infection, caused by Salmonella typhi, and it is important public health problems among children in develop countries.^[1] Typhoid Fever is still common in the developing world, where it affects about 21.5 million persons each year. Typhoid Fever can be prevented and can usually be treated with antibiotics. Typhoid fever is a serious and potentially fatal infection.^[2] The incidence mode of transmission and consequences of typhoid fever differs significantly in developed and developing countries. The incidence has decreased markedly in developed countries. In the United States about 400 cases of enteric fever are reported each year giving an annual incidence of less than 0.2%, 1,00,000 which is similar to that in western, Europe and Japan.^[1] The steadily increasing multidrug resistance in S. Typhi strains is a cause of

grave concern in India, where such strains are endemic in many parts.^[3] The disease remains an important public health problem in developing countries. In 2000, it was estimated that over 2.16 million episodes of typhoid occurred worldwide, resulting in 216 000 deaths, and that more than 90% of this morbidity and mortality occurred in Asia.^[2] Typhoid fever is transmitted via the fecal oral route or urine. This may take place directly through solid hands, contaminated with faeces or urine of cases or carrier or indirectly by ingestion of contaminated water, milk, food or through flies. Typhoid fever is a systematic clinical syndrome by certain salmonella organism. It encompasses produced by certain salmonella Typhi, and Para typhoid fever is caused by salmonella Para typhi.^[4]

Uses of typhoid vaccine for children in all endemic areas confess a high degree of immunity. Protection and purification of drinking water supply, improvement of basic sanitation and promotion of food hygiene are essential measures to interrupt transmission of typhoid

fever.^[5] Nurses are the vital for all health programs and the general health education of the family of the patient, especially about signs and symptoms, treatment, control and prevention of typhoid fever. The disease is endemic in almost all parts of the country with periodic outbreaks of water borne or food borne diseases. In India in 1992, about 3, 52,980 cases with 735 deaths were reported. The number was 3,57,452 cases and 888 deaths in 1993 where as in 1993 where as in 1994, about 2,78,451 cases and 304 deaths due to typhoid fever were reported. Case fatality rate due to typhoid has been varying between 1.1% to 2.05% in the last few years.^[6] A study conducted in Madhya Pradesh, reported that nearly 25 million children are born in India every year of which almost 2.7 million die before attaining the age of five years. Out of the major causes of death was fever.^[7] Above measures to control of typhoid fever will be successful only if the mothers have adequate knowledge of regarding typhoid fever. If the mothers have adequate knowledge about typhoid fever and its complications, disease can be prevented and they can brought up healthy child. Thus the present study is planned to assess the knowledge of mothers and the effect of structured teaching programme regarding typhoid fever.

METHODOLOGY

In present study, quantitative approach and pre-experimental design were considered best to evaluate the effectiveness of structured teaching in term of knowledge about disease, treatment, prevention and control measures, of mothers of children with typhoid fever. In the study, one group pretest post test design was applied. The present study was conducted among mothers of children between 6-12 year at CHC, Sanganer, Jaipur. In the study, 60 mothers of children between 6- 12 years who came to CHC, Sanganer, Jaipur were selected for the study by convenient sampling technique. In this study, structured knowledge questionnaire was applied to assess the knowledge of mothers of children between 6 to 12 years regarding typhoid fever. The tool consists total of 43 items (10 demographic questions and 33 knowledge questions). The structured teaching programme was developed based on the review of the related research / non research literature and the objectives of the study. The reliability was established by test retest method which measures co-efficient of internal consistency. It was obtained for tool was $r=0.954$, which was considered to be reliable and adequate.

Method of data collection

The face to face interviews with the subjects from the experimental group were conducted by the investigator personally by using the structured questionnaire before and after implementation of structured teaching programme. The knowledge questionnaire consists of 33 multiple choice questions. Mothers were interviewed and the answers were written in the box provided against each question. Each correct answer was given a score of

one and wrong answer was given a score of zero. A pilot study was conducted at CHC, Sanganer, Jaipur. Permission was obtained for the pilot study from concerned authority. 10 mothers of children between 6 – 12 years were selected conveniently from CHC, Sanganer, Jaipur. The pretest interview schedule was administered and STP was given for 40 minutes, post test was administered 7 days after administration of STP. The main study was conducted among 60 mothers after permission from the CM & HO, Jaipur-II and Medical Officer (Incharge) CHC, Sanganer, Jaipur. The data was collected for a period of 6 weeks. The investigator collected both pre-test and post-test group data and also implemented the structured teaching programme. Pre-test was conducted on the mothers of children between 6 -12 years who came CHC, Sanganer, Jaipur by using questionnaire regarding typhoid fever during the first 2 weeks. Immediately after pre-test, through structured teaching programme on typhoid fever was taught to mothers of children between 6-12 years in group. Time period was 60 minutes for the period of 1 week. Evaluation was done by conducting post-test after one week of structured teaching programme in the last 2 weeks.

Statistical analysis

Descriptive and inferential statistics was used for data analysis. The collected data was organized tabulated and analyzed by using descriptive statistics i.e., percentage, mean and standard deviation. The inferential statistics used are chi-square test and paired 't' test. The chi-square test was used to find out the association between demographic variables and level of knowledge. The paired 't' test was used to find out the difference in level of knowledge between pre and post test. The data is presented in the form of tables and figures.

RESULTS

Table-1: Distribution of sociodemographic variables of the mothers. N=60.

Demographic variables		Frequency	Percentage
Age (years)	<25	16	26.67
	25-35	22	36.67
	36-45	12	20
	>45	10	16.66
No. of children in age group between 6-12	One	41	68.33
	Two	15	25
	Three and above	4	6.67
Religion	Hindu	24	40
	Muslim	19	31.67
	Christian	8	13.33
	Others	9	15
Type of family	Joint family	16	26.67
	Nuclear family	44	73.33
Educational status	Illiterate	12	20
	Primary school	17	28.33
	High school	23	38.33
	Graduate	8	13.34
Occupation	Housewife	20	33.33
	Agricultural	5	8.33
	Government employees	13	21.67
	Coolie	14	23.33
	Private employees	8	13.33
Family income	2501 - 3500	15	25
	3501 - 4500	15	25
	≥ 4501	30	50
Utilization of health services	Government agencies	37	61.67
	Private nursing home	23	38.33
Previous history of typhoid fever in children	None	51	85
	Once	9	15

The table-1 show that the large number 22(36.67%) of the subjects belong to 25- 35 years, and 16 (26.67%) of subjects belong to < 25 years and the rest of 12(20%) belong to 35-45 years least subjects 10(16.66%) belongs to above >45 years. According to numbers of children, 68.33% of the subjects had one children in the age group 6-12 years, and 15 (25%) of subjects two children between 6-12 years and the least 4 12(6.67%) had three and more children in the age group 6-12 years. In terms of religion, the large number 24(40%) of the subjects were Hindus, 19 (31.67%) of subjects were Muslims and 9(15%) of the subjects were others the least 8(13.33%) of the subjects belongs to Christian community. According to type of family, 73.33% of the subjects were from nuclear family, and the least 16(26.67%) of the subjects were from joint family. As per educational status, 38.33% of the subjects educational status was high school, 17 (28.33) subjects studied till primary school 12 (20%) the subjects were illiterate and the least 8(13.34%) of the subjects had qualification pre-university and above. In terms of mother's occupation, 33.33% were housewife, 5 (8.33%) were agricultural, 13 (21.67%) were government employees, 14 (23.33%) were coolie and 8 (13.33%) of private employees. The distribution of monthly family income revealed that 50%

were earning above 4501 Rs. per month, and 25% were earning within 2501-4500 Rs. per month. The majority of mothers, 61.67% were preferring government agencies for health services and only 38.33% of mothers were using private agencies for health services. As per previous history of typhoid fever in children, majority mothers 51 (85%) told that their children had no previous history of typhoid fever and mere (15%) mothers told that their children had previous one episode of typhoid fever.

The table-2 revealed that the mean score percentage of post test knowledge on introduction of typhoid fever was greater than the pre test knowledge 53.67% with gain in mean score of 20.83%. The overall knowledge post test mean score percent was 67.39% and pretest mean score percent is 47.94% with gain in mean score of percentage of 29.45%.

Additionally, table-3 observed that mean pretest and posttest scores were 12.52±2.19 and 22.20±3.41 respectively. The calculated 't' test score was 27.19 which represent that there was a highly significant ($p<0.00001$) difference between mean pretest and posttest knowledge scores. In other words, it is inferred

that the interventional programme was very much effective in increasing the knowledge of the mothers towards typhoid fever. Furthermore, accounted for association, the variables educational status ($\chi^2 = 16.9$, $df=3$), number of children ($\chi^2 = 6.385$, $df=2$) religion ($\chi^2 = 8.830$, $df=3$), family income ($\chi^2 = 7.96$, $df=2$) type of family ($\chi^2 = 4.682$, $df=1$) occupation ($\chi^2 = 11.60$, $df=4$) health service ($\chi^2 = 3.964$, $df=1$) history of typhoid fever ($\chi^2 = 4.588$, $df=1$) were found to be statistically significant with pre-test knowledge on typhoid fever at

5% level i.e., $P < 0.05$. It is evidenced that the knowledge on typhoid fever was influenced by educational status, number of children, religion, family income, type of family income, occupation and health services.

Table 2: Mean and Mean score percentage of pre and post test knowledge regarding typhoid fever. N=60.

Different aspects of Knowledge	Maximum possible score	Pretest score		Post test score		Gain in mean score percentage
		Mean	Mean %	Mean	Mean %	
Introduction	6	3.22	53.67	4.47	74.5	20.83%
Transmission, signs & symptoms	5	2.18	43.6	3.27	65.4	21.8%
Investigation & treatment	9	3.37	37.44	5.92	65.78	28.34%
Supportive therapy	7	1.78	25.43	4.25	60.71	36.28%
Prevention	6	1.97	31.83	4.33	72.17	40.34%
OVERALL	33	12.52	37.94	22.24	67.39	29.45%

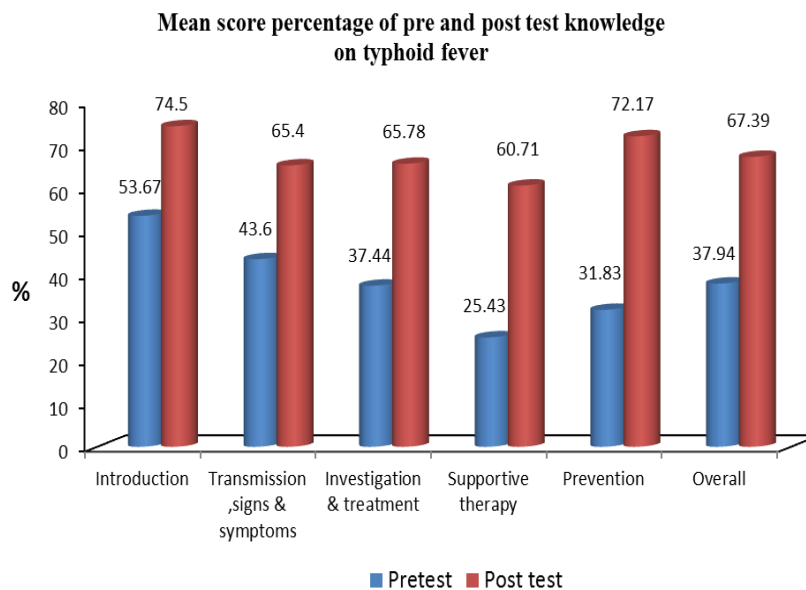


Figure-1: Mean score percentage of pre test and post test knowledge among the mothers.

Table-3: Mean and SD of knowledge scores before and after structured teaching programme and statistical significance. N=60.

S. No.	Knowledge Assessment	Pretest score		Post test score		Paired 't' value	P- Value
		Mean	SD	Mean	SD		
1.	Introduction	3.22	1.14	4.47	1.42	11.58*	$P < 0.05$
2.	Transmission, signs & symptoms	2.18	1.23	3.27	1.26	6.19*	$P < 0.05$
3.	Investigation & treatment	3.37	1.59	5.92	1.31	14.28*	$P < 0.05$
4.	Supportive therapy	1.78	1.17	4.25	1.40	14.61*	$P < 0.05$
5.	Prevention	1.97	1.15	4.33	1.08	10.33*	$P < 0.05$
6.	Over all	12.52	2.19	22.2	3.41	27.19*	< 0.00001

DISCUSSION

The basic aim of the current study is to explicate the effectiveness of STP on knowledge about typhoid fever and to explore the relationship with the selected

demographic variables. The present study highlighted that the mean score percentage of post test knowledge on introduction of typhoid fever was greater than the pre test knowledge 53.67% with gain in mean score of 20.83%. The overall knowledge post test mean score percent was

67.39% and pretest mean score percent is 47.94% with gain in mean score of percentage of 29.45%. In this context, a study by Mahmoud Samia et al highlighted that the overall pretest knowledge score was improved from 77.7% in pre-intervention to 97.1% immediately post intervention, and reduced to 96.1%, after 3 months.^[8] This finding was in context to our research findings. A cross-sectional survey by Nahimana MR et al highlighted that about 52.8% of participants reported having heard about typhoid fever; however 25.9% had received health education. Only 34.6% and 38.6% of the respondents respectively knew how typhoid fever spreads and is prevented.^[9] This finding was in support of our findings. Our study reported that during pretest, mean knowledge score was 33.94%. Punitha K et al highlighted that most of mothers have insufficient to moderate knowledge towards typhoid.^[10] Additionally, the present study observed that mean pretest and posttest scores were 12.52±2.19 and 22.20±3.41 respectively. In this support, Subbulakshmi S et al stated that the mean value of knowledge score on typhoid fever was 9.8 and the standard deviation was 3.7.^[11]

The present study revealed that calculated 't' test score was 27.19 which represent that there was a highly significant ($p < 0.00001$) difference between mean pretest and posttest knowledge scores. In other words, it is inferred that the interventional programme was very much effective in increasing the knowledge of the mothers towards typhoid fever. A similar study by Mahmoud Samia et al also provided evidence that after implementation of the educational intervention mothers' knowledge regarding typhoid fever improved with highly statistically significant differences.^[8] Another study by Famuyiwa S A et al also stated that there was significant main effect of treatment on knowledge nursing mothers towards typhoid prevention among nursing mothers.^[12] Similar studies by Anjali M et al (2021)^[13] and Kumar S et al (2021)^[14] Anupam Pareek et al (2021).^[15] Singh M et al.^[16] and Pareek S et al.^[17] also revealed similar findings while assessing effectiveness of learning package.

Furthermore, accounted for association, the variables educational status, number of children, religion, family income, type of family, occupation, health service, history of typhoid fever were found to be statistically significant with pre-test knowledge on typhoid fever at 5% level i.e., $P < 0.05$. In contrast to our findings, Subbulakshmi. S et al revealed that there was a significant association between the demographic variables such as areas of residence ($\chi^2 = 6.694$) and occupational status ($\chi^2 = 17.182$) with their level of knowledge. There was no significant association between other demographic variables such as age of the mother, educational status, type of family, socio economic background, source of information with their levels of knowledge on typhoid fever.^[11]

CONCLUSION

Prior to implementation of structured teaching programme most of the mothers had low knowledge level about typhoid fever. Structured teaching programme was prepared and the effectiveness was evaluated by the post test. Significant difference was found in pre and post test knowledge level. There was significant association between post test knowledge level and selected demographic variables such as religion, type of family, education, occupation and family income.

LIMITATIONS: The study limited to the following

- Mothers of 6-12 years of children attending CHC, Sanganer, Jaipur.
- Mothers who are present at the time of study.
- Mothers who are willing to participate in the study.
- Mothers who know Hindi.

Source of Funding: Researcher had self-financed the present study.

Conflict of Interest: There was no conflict of interest involved while conducting the present study.

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