Research Article

Effectiveness of Structured Teaching Programme on Knowledge of Mothers of Under-five Children regarding Management of Febrile Convulsions at Selected Wards of SKIMS, Soura, Srinagar

Haseena Naz[1], Aisha Akhter[2], Zareefa Bano[3], Nasir Ahmad[4], Farzana Batool[5], Yasmeena Hassan[6], Nusrat Nabi[7], Adil Ahmad[8]

[1,4,5,6,7,8]M.Sc Student, SKIMS, Jammu & Kashmir, India.
[2]Assistant Professor and Guide, [3]Assistant Professor and Co-Guide at MMINSR, SKIMS, Soura, Srinagar, Jammu and Kashmir, India.
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Corresponding Author:
Haseena Naz, SKIMS, Jammu & Kashmir, India.
E-mail Id:
haseenanaz10010@gmail.com
Orcid Id:
https://orcid.org/0009-0004-8987-1415

A B S T R A C T

Background: Febrile convulsion is one of the most common paediatric problems worldwide; it can be frightening, emotionally traumatic and anxiety provoking for parents, particularly mothers, which may lead to mis management.

Objectives: To assess the pre-test and post-test knowledge of mothers of under-five children, evaluate the effectiveness of the structured teaching programme on the knowledge of mothers of under-five children, and to find the association of their pre-test knowledge scores regarding the management of febrile convulsions with their selected demographic variables.

Methodology: A quantitative research approach with pre-experimental one-group pre-test post-test design was used in this study conducted on 50 mothers at SKIMS, Soura, Srinagar. The assessment of knowledge was done by using a self-structured interview schedule.

Results: The pre-test showed that 88% of respondents had inadequate knowledge, 12% had moderate knowledge, and none had adequate knowledge. Post-test showed that 78% had adequate knowledge, 22% had moderate knowledge, and none had inadequate knowledge. The mean post-test knowledge score of the study subjects was significantly higher than the mean pre-test knowledge score at 0.05 level of significance. There was a non-significant association of pre-test knowledge scores of study subjects regarding the management of febrile convulsions with their selected demographic variables.

Conclusion: Majority of the study subjects had inadequate knowledge regarding the management of febrile convulsions which indicates that they need to gain awareness about the management of febrile convulsions. An increase in the knowledge of participants was seen after the administration of the structured teaching programme.

Keywords: Knowledge, Febrile Convulsions and their Management, Mothers of Under-Five Children, Structured Teaching Programme

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Introduction

World Health Organization (WHO) has estimated that more than 10 million children under five years of age die each year in developing countries and seven among ten deaths are due to acute respiratory infection, mostly pneumonia, diarrhoea, measles, malaria, or malnutrition, or a combination of all these.[1] It is further speculated that the deaths from these diseases will be even more if there is no intervention. Almost all these diseases are indicated by a rise in the body temperature of the children which is called fever, and if the fever is not managed on time, it triggers a condition known as 'febrile seizures' or 'febrile convulsion'.[2]

National Institute of Health (2020) explained that febrile convulsions are convulsions that occur in young children and are triggered by fever arising from infection outside the nervous system, in a child who is otherwise neurologically normal. Febrile convulsions have long been recognised, but only in recent years, have they been better understood. Young children between the ages of 6 months and 5 years are most likely to experience febrile convulsions; this risk peaks during the second year of life. Fever may accompany common childhood illnesses such as a cold, flu or ear infection.[3] At the global level, it is estimated that there are 50 million people suffering from seizures, and three-fourths of these belong to developing countries. There are very few epidemiological studies looking at the incidence of febrile convulsions in India. It is estimated that approximately 8-10 million people suffer from epilepsy in India. 25% of childhood illnesses are due to neurological reasons among which 90% are convulsive disorders and 75% are febrile seizures. The incidence of febrile convulsions in India was estimated to be 37.2 per 1,100,000. Among these, 32% of the children were female. Majority of the febrile convulsions occurred in the age group of 6 months to 5 years which constitutes 75% of cases and the remaining 25% belonged to the age group of less than six months. At the onset of febrile convulsions, 77% of the cases had a moderate degree of temperature and 33% had a high temperature.[4]

The limited data showed that the incidence and prevalence rates of febrile convulsions in developing countries are surprisingly similar to those in developed countries. A recent study conducted in Kolkata's urban population showed an annual incidence rate of 27.27 per 100,000 per year.[5] A recent rural febrile convulsions surveillance programme from Uttarakhand showed a prevalence rate of two or more unprovoked febrile convulsions to be 7.5 per 1000.[6] This is slightly higher than the prevalence rate in Kerala, a state with higher literacy rates and better public health awareness (4.9/1000).[7] A paediatric study from the Kashmir valley showed prevalence rates of 3.74/1000 in males and 3.13/1000 in females. Hippocrates, in the 4th century BC, described convulsions and clearly differentiated them from rigours and breath-holding attacks. He realised that there was a strong association of age with high fever and precipitating infection. They most commonly occur in children between the ages of 6 months to 5 years. Only 10% of reported seizures occur after the age of 3 years and are two times more common in boys than girls.[8]

Febrile convulsion is one of the commonest disorders of childhood and it is a cause of worry for parents and caregivers. Chances of having another case of convulsions are high in the family with a history of febrile convulsions. Convulsions are frightening, but it is important that parents and caregivers stay calm and carefully observe the child. An integral part of the management of first febrile convulsions is the reassurance of the family. The first convulsion can be a terrifying experience for many parents, who may think initially that their child is dying. The challenge is to help the family to deal with the emotional trauma and to appreciate the excellence of the prognosis. The child's head should be turned to one side to prevent choking. In the past, it was common to place a stick in the child's mouth to prevent bites to the tongue or lips. This should never be attempted, as it may result in damage to the tongue. When the fit subsides, the child should be kept in the recovery position, i.e., lying on its side. If fits are prolonged or follow each other rapidly, an ambulance should be called.

Every mother should have an awareness regarding controlling the rise of body temperature without looking into the pathological cause of fever; controlling the pathological cause becomes secondary which should be controlled by administering prescribed antibiotics to the children, but the primary requirement is reducing the fever and preventing the occurrence of febrile convulsions, thereby the complications of hyperpyrexia can be prevented and early recovery can be made possible.[9]

Objectives

- To assess the pre-test knowledge of mothers of under-five children regarding the management of febrile convulsions
- To assess the post-test knowledge of mothers of under-five children regarding the management of febrile convulsions
- To evaluate the effectiveness of a structured teaching programme on the knowledge of mothers of under-five children regarding the management of febrile convulsions by comparing pre-test and post-test knowledge scores
- To find the association of pre-test knowledge scores of mothers of under-five children regarding febrile convulsions with their selected demographic variables i.e age in years, type of the family, place of residence, number of living children, educational qualification of

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mothers, occupational status of mothers, total monthly family income, and previous source of information

Methodology

In this study, a quantitative research approach was adopted using a self-structured interview schedule regarding the management of febrile convulsions.

Research Design

In this study, a pre-experimental one-group pre-test post-test design was used to assess the effectiveness of a structured teaching programme on the knowledge of mothers of under-five children regarding the management of febrile convulsions. This study was conducted at the Paediatric wards of SKIMS, Soura, Srinagar. The study subjects were 50 mothers of under-five children, selected through non-probability convenience sampling technique from Sep 19, 2022 to Oct 10, 2022. Ethical approval for the study was obtained from the Institutional Ethics Committee, SKIMS, Soura.

Inclusion Criteria

Mothers of under-five children fulfilling the following criteria were included in the study:

- Whose children were admitted to paediatric wards of SKIMS, Soura, Srinagar during the data collection period
- Who were willing to participate in the study
- Who were able to understand and speak Kashmiri and Urdu

Exclusion Criteria

Mothers of under-five children fulfilling the following criteria were excluded from the study:

- Whose children were admitted to wards other than paediatric wards at the time of data collection
- Who were not willing to participate in the study
- Whose children were seriously ill

Development of the Tool

A structured teaching programme (intervention and health talk) was developed containing literature related to the definition, causes, clinical manifestation, investigations, complications, prevention and management related to febrile convulsions. After content validity and modification of the tool, a self-structured knowledge interview schedule about the management of febrile convulsions was developed. Test-retest, Karl Pearson's coefficient correlation were used to calculate reliability, which was found to be 0.92 revealing that the tool was reliable for the study. A self-structured interview schedule consisting of 52 items in a dichotomous format with Yes and No options was used. The scoring criteria were as follows: 1 (one) mark for a correct answer and 0 (zero) for a wrong answer. Categorisation of scores was done as inadequate (0-26), moderate (27-39), and adequate (40-52).

Results and Discussion

Findings related to Demographic Variables of Study Subjects

The maximum number of study subjects (50%) belonged to the age group of 26-30 years whereas, 26% belonged to the age group of more than 31 years and 24% belonged to the age group of 20-25 years. 50% of the study subjects belonged to nuclear families and 50% belonged to joint families. Maximum study subjects (58%) belonged to rural areas and 42% belonged to urban areas. Most of the study subjects (44%) had educational status as higher secondary, 36% had primary/ middle, 14% had graduate and above, and 6% were illiterate. Maximum study subjects (74%) were non-working whereas, 26% were working. Maximum study subjects (34%) had a family income of INR 30,000-40,000. Subjects having a monthly family income of less than INR 30,000 and between INR 40,000 and 50,000 constituted 26% each, and 14% had a monthly family income above INR 50,000. Most of the study subjects (56%) had two children, 28% had one child, 12% had three children, and 4% had more than three children. 78% of study subjects mentioned relatives as the source of information, 12% said neighbours, 8% credited healthcare professionals, and 2% stated mass media as the source of information as depicted in Table 1.

A similar study was conducted by Verma and Minu[10] who assessed the effectiveness of a video-assisted teaching programme on knowledge regarding seizures among mothers of under-five children in a selected area of Uttar Pradesh. In this study, maximum (40%) study subjects belonged to the age group of 26-30 years, 26.66% were between 31 and 35 years of age, and 16.67% were above 35 years. Maximum (63.33%) subjects had joint families while the remaining (36.67%) had nuclear families, and no one had a single-parent family. Maximum (53.33%) study subjects had studied up to intermediate level, 26.67% had studied up to secondary level, 13.33% were graduates, and 6.66% had studied up to primary level. In context to occupation, maximum (66.67%) were housewives, 26.67% were daily wage earners, 6.23% were private employees, and no one was a government employee. Regarding income of the family, maximum (56.67%) earned more than INR 5000 per month, 20% had a family income of INR 5001-10,000 per month, 16.67% had a family income of INR 10001-Rs.15,000 per month, and 6.45% earned more than INR 15,000 per month. Regarding the number of living children, maximum number of mothers (36.67%) had three children, 30% of mothers had two children, 20% of mothers had one child, and 13.33% of mothers had more than three children.

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With reference to the source of information, maximum (43.33%) mothers gained knowledge from healthcare workers, 23.33% of mothers gained knowledge from family members, 20% of mothers gained knowledge from mass media, and 13.33% of mothers gained knowledge from neighbours and friends.

Findings related to the Assessment of Knowledge Scores of Study Subjects regarding Management of Febrile Convulsions

The findings of the study showed that in the pre-test, out of 50 study subjects, maximum (88%) had inadequate knowledge, 12% had moderate knowledge, and none had adequate knowledge as depicted in Table 2. A similar study was conducted by Krishnan and Sreeja[11] who assessed the knowledge of parents regarding febrile convulsions in their children in government and private hospitals in Palakkad, Kerala. Findings revealed that 49% of mothers had inadequate knowledge, 34% had moderate knowledge, and 17% had adequate knowledge.

The findings of the study showed that in the post-test, out of 50 study subjects, majority (78%) had adequate knowledge, 22% had moderate knowledge, and none had inadequate knowledge as depicted in Table 3. A similar study was conducted by Tabassum and Parvaiz[12] who assessed knowledge gain with a structured teaching programme on the management of febrile convulsions of mothers of under-five children at SKIMS, Soura, Srinagar. Its findings showed that 78% of mothers had adequate knowledge, 18% had moderate knowledge, and 4% had inadequate knowledge regarding the management of febrile convulsions.

The mean post-test knowledge score (37.50 ± 5.140) of the study subjects regarding the management of febrile convulsions was significantly higher than the mean pre-test knowledge score (13.76 ± 2.51) at 0.05 level of significance. This indicated that the structured teaching programme was effective in enhancing their knowledge regarding the management of febrile convulsions as depicted in Table 4. A similar study was conducted by Kaur and Margaret[13]

who assessed the effectiveness of a health education programme on the knowledge regarding febrile convulsions among mothers of under-five children at Sirmour, Himachal Pradesh. The findings revealed that the mean pre-test knowledge score of study subjects was 6.10 whereas, the mean post-test knowledge score was 17.90 with a mean difference of 11.8. The calculated 't' value was greater than the tabulated 't' value which was statistically significant at 0.05 level of significance. Thus, the planned teaching programme was effective.

Association of Pre-test Knowledge Scores of Study Subjects with their Selected Demographic Variables

The present study showed that there was a statistically non-significant association of pre-test knowledge scores of study subjects regarding the management of febrile convulsions with their selected demographic variables like age in years (p = 0.684), type of family (p = 0.384), place of residence (p = 0.647), number of living children (p = 0.360), educational qualification of mothers (p = 0.537), occupational status of mothers (p = 0.662), total monthly family income (p = 0.607), and previous source of information (p = 0.589) at 0.05 level of significance as depicted in Table 5. A similar study was conducted by Yadav[14] who assessed the effectiveness of a structured teaching programme on knowledge regarding the management of febrile seizure among mothers of under-five children in a selected hospital in Lucknow. The data presented that there was an association found between the pre-test knowledge score with the selected demographic variables like educational status, occupational status, type of family, number of children, living area, and source of health information. The calculated value of chi-square was more than the table value at 0.05 level. There was no association between the pre-test knowledge score and other demographic variables like age of mother, age of child, religion, family income, and history of febrile seizure. The study findings revealed that there was no significant association between pre-test knowledge score and selected demographic variables like age, educational status, occupation, and type of family at 0.05 level of significance.

Table 1.Frequency and Percentage Distribution of Study Subjects according to their Demographic Variables (n = 50)

Demographic Variables	Frequency (f)	Percentage (%)
Age in Years		
20-25	12	24
26-30	25	50
> 31	13	26
Type of Family		
Nuclear family	25	50

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Joint family	25	50
Place of Residence		
Rural	29	58
Urban	21	42
Educational Qualification of Mothers		
Illiterate	3	6
Primary/ middle	18	36
Higher secondary	22	44
Graduate	7	14
Occupational Status of Mothers		
Working	13	26
Non-working	37	74
Total Monthly Family Income (INR)		
< 30,000	13	26
30,000 - 40,000	17	34
40,000 - 50,000	13	26
> 50,000	7	14
Number of Living Children		
One	14	28
Two	28	56
Three	6	12
> Three	2	4
Previous Source of Information		
Relatives	39	78
Neighbours	6	12
Mass media	1	2
Healthcare professionals	4	8

Table 2.Frequency and Percentage Distribution of Subjects according to their Pre-test Knowledge Score (n = 50)

Knowledge Score	Pre-test	
	Frequency	Percentage
Inadequate (0-26)	44	88
Moderate (27-39)	6	12
Adequate (40-52)	0	0

Table 3.Frequency and Percentage Distribution of Study Subjects according to their Post-test Knowledge Score (n = 50)

Knowledge Score	Post-test	
	Frequency	Percentage
Inadequate (0-26)	0	0
Moderate (27-39)	11	22
Adequate (40-52)	39	78

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Table 4.Comparison of Pre-test and Post-test Knowledge Scores of Study Subjects regarding Management of Febrile Convulsions (n = 50)

Knowledge Assessment	Mean ± SD	Mean Difference	Paired 't' Test	p Value
Pre-test	13.76 ± 2.512	23.740	26.904	< 0.001*
Post-test	37.5 ± 5.14			

*Significance level 0.05

Table 5.Association of Pre-test Knowledge Score of Study Subjects with their Selected Demographic Variables (n = 50)

Variables	Category	Adequate Knowledge	Moderate Knowledge	Inadequate Knowledge	Chi-square Test	p Value	df	Table Value	Result
Age of mothers (years)	20-25	0	1	11	0.760	0.684	2	5.991	Non-significant
	25-30	0	4	21					
	> 30	0	1	12					
Type of family	Nuclear family	0	4	21	0.758	0.384	1	3.841	Non-significant
	Joint family	0	2	23					
Place of residence	Rural	0	4	25	0.210	0.647	1	3.841	Non-significant
	Urban	0	2	19					
Educational qualification of mothers	Illiterate	0	0	3	2.173	0.537	3	7.815	Non-significant
	Primary/ middle	0	2	16					
	Higher secondary	0	4	18					
	Graduate	0	0	7					
Occupational status of mothers	Working	0	2	11	0.191	0.662	1	3.841	Non-significant
	Non-working	0	4	33					
Total monthly family income (INR)	< 30,000	0	2	11	1.837	0.607	3	7.815	Non-significant
	30,000-Rs.40,000	0	3	14					
	40,000-50,000	0	1	12					
	> 50,000	0	0	7					
Number of living children	One	0	1	13	3.215	0.360	3	7.815	Non-significant
	Two	0	3	25					
	Three	0	1	5					
	> Three	0	1	1					
Previous source of information	Relatives	0	6	33	1.923	0.589	3	7.815	Non-significant
	Neighbours	0	0	6					
	Mass media	0	0	1					
	Healthcare professionals	0	0	4					

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Recommendations

Based on the findings of the present study and keeping in mind the limitations of the study, the following suggestions are offered to conduct other studies:

- Similar studies can be replicated for larger samples so that the findings can be generalised
- Similar studies can be conducted to find the practice level of mothers of under-five children regarding the management of febrile convulsions
- Comparative studies can be conducted among the urban and rural mothers of under-five children regarding the management of febrile convulsions
- A follow-up study can be done to determine the effectiveness of a structured teaching programme
- Similar studies can be conducted in different settings to find out the significant difference

Conclusion

This study shows that there was an improvement in the knowledge of study subjects after the implementation of the structured teaching programme regarding the management of febrile convulsions which was evident from post-test knowledge. Thus, the structured teaching programme was effective in imparting education. There was a non-significant association of pre-test knowledge scores of study subjects with selected demographic variables. The study also concluded that the majority of study subjects had inadequate knowledge regarding the management of febrile convulsions therefore, health education programmes about the management of febrile convulsions should be conducted.

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