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A Study to Assess the Effectiveness of Structured Teaching Program on the Knowledge among Mothers of Children Below 5 Years Regarding Febrile Seizures in a Tertiary Hospital, South India

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Abstract: ***Febrile seizures are common in young children and often cause fear and anxiety among parents. This study assessed the effectiveness of a structured teaching programme in improving mothers' knowledge of febrile seizures. A quantitative, one-group pre-test and post-test design was used among 50 mothers of children below five years attending Apollo Adlux Hospital, Karukutty, Angamaly. Participants were selected through convenience sampling, and data were collected using a structured questionnaire. The median knowledge score increased from 5 before the programme to 14 after the programme. The improvement was statistically significant according to the Wilcoxon signed-rank test ($p < 0.001$). Fisher's exact test found no significant association between baseline knowledge and the mother's age, working status, or number of children. The structured teaching programme effectively improved mothers' knowledge and may help them respond appropriately to febrile seizures while reducing fear and harmful practices.***

Keywords: Febrile seizures, Mothers' knowledge, Structured teaching programme, Under-five children, Health education

1. Introduction

"Children are the world's most valuable resource and our hope for the future"

A febrile seizures also known as 'fever fit' or febrile convulsions that occur in young children and are triggered by fever above 101 °F. The child may look strange for a few moments then, stiffen, twitch and roll his eyes. He will be unresponsive for a short time, his breathing will be disturbed and his skin may appear a little darker than usual. After the seizure the child quickly returns to normal. Seizure usually last less than 5 minutes and although uncommon, can last for up to 15 minutes. They most commonly occur in children both the ages of 6 months and 5 yrs., risk peaks during the second year of life. The fever may accompany common childhood illness such as cold, the flu, or an ear infection. In some cases a child may not have fever at the time of seizures but will develop after sometime.

The International League Against Epilepsy defines febrile seizures occurring in childhood between 1 month to 5 yrs of age, associated with a febrile illness not caused by an infection of the central nervous system, without previous neonatal seizures or a unprovoked seizures and not meeting criteria for other acute symptomatic seizures. Febrile seizure are one of the most common neurological disorders in childhood. Boys affected about twice as often as girls, and there is an increased susceptibility in families, indicating a possible genetic predisposition. Most febrile seizures are generalised and last less than 5 minutes. About 30 to 40% of children may have one reoccurrence.

Although the occurrence of febrile seizures in childhood is quiet common, they can be extremely frightening, emotionally traumatic and anxiety provoking when witnessed by parents. During the seizure, the parent may perceive that their child is dying but fortunately majority of febrile seizures are benign. Therefore, it is felt that the raising awareness about the disorder allaying parental fear and anxiety, and addressing their concerns about the recurrence and longterm consequences of febrile seizures will be useful.

2. Need for the Study

High incidence of febrile seizures in under-5 children. Children rarely develop their first febrile seizure before the age of 6 months or after 3 yrs. older the child is when the first febrile seizures occurs; the less likely the child is to have more. Each seizure last less than 15 minutes, there is only one seizure in a 24 hr period. It is a world wide disorder affecting up to 3%of the population of 50 million.

In India it is estimated that approximately 8- 10 million people suffering from epilepsy. 25% of childhood illnesses are due to neurological origin among which 90% are convulsive disorder and 75% are febrile seizures.

The Indian Epilepsy Association Banglore stated nearly 80 lakh people suffer epileptic attacks in karnataka, among which 50 lakh are from rural and 30 lakh from urban areas. In India many studies are conducted in different states. It is also found that the social false beliefs have major impact on people's view towards febrile seizures and its management in rural areas in various parts of the country. It should be remembered that an episode of fever is in fact, the only time that the child is at risk of recurrence.

Misconceptions can lead to harmful practices.Educational interventions can improve outcomes and reduce anxiety

3. Problem Statement

A study to assess the effectiveness of structured teaching programme on febrile seizure among mothers of under 5 children in Apollo Adlux Hospital, Karukutty, Angamaly

4. Objectives

- To assess the knowledge of mothers regarding febrile seizures before and after structured teaching programme
- To find the effectiveness of structured teaching programme on febrile seizure among mothers of child age below 5
- To determine the association between demographic variables and knowledge regarding febrile seizures among mothers of child age below 5

5. Hypothesis

Null Hypothesis

- Ho1: There will be no significant increase in the knowledge of mothers after structured teaching programme
- Ho2: There will be no significant relationship between the pre test knowledge of mothers with selected variable.

Research Hypothesis

- H1: There will be significant difference between pre and post test knowledge of mothers after receiving structured teaching programme
- H2: There will be significant relationship between the knowledge level of mothers with selected demographic variables regarding febrile seizures.

6. Methodology

Research Approach
Quantitative research approache

Research Design
The research design used for the study is one group pre- test and post-test design.

Research Variables

Dependent Variable
Knowledge of mothers regarding febrile seizures

Independent Variable
Structured teaching programme

Demographic Variables
1) Age of mother
2) Working Status of mother
3) Number of children

Setting of Study
Apollo Adlux Hospital Karukutty, Angamaly

Duration Of Study
4 months

Data Collection Method
Data was collected using structured knowledge questionnaire through Google Forms
Section A: Contains 3 demographic variables
Section B: Contains 14 questions to assess the knowledge of l mothers regarding febrile seizures.

Targeted Population
In this study, targeted population is mother of children below age of 5 years.

Sample
samples who fulfill the inclusion criteria

Sample Size
50 mothers

Sampling Method
Technique used for the study is non probability convenient sampling method

Inclusion Criteria
Mothers of children with age group below 5yrs, who visited in Emergency department during the study
Mothers of children with age group below 5yrs, who are willing to participate

Exclusion Criteria
Mothers who had been diagnosed with Psychiatric disorders

Ethical Consideration
Written permission was obtained from Ethical committee, Apollo Adlux Hospital to conducta pre-experimental study on mothers of under five children.

Plan For Data Analysis
Descriptive and inferential statistics

Tool
Structured questionnaire was used to assess the knowledge of mothers regarding febrile seizures. The tool consists of section A- Variables and Section B- questionnaire regarding febrile seizures. Ethical clearance letter from Director of Medical Services and GM nursing was taken. Consent was taken from 50 samples too.

7. Result

The collected data was organised and analyzed based on the objectives of the study by using descriptive statistics that is percentage, median for demographic data. Wilcoxon T- test to compare pre and Post intervention knowledge. Fisher's exact test was used to analyze the association between demographic variables and baseline knowledge.

Table 1: Descriptive statistics

Characteristics	Frequency (n=50)	Percentage
Age of Mother		
20-25	8	16%
25-30	21	42%
30-35	18	36%
Above 35	3	6%
Working Status		
Yes	28	56%
No	22	44%
Number of Children		
1	21	42%
2	21	42%
Above 2	7	14%
Missing	1	2%

Frequency and percentage presented for categorical variable

Demographic characteristics of the study participants. Most of the mothers were in the age group of 25–30 years (42%), followed by 30–35 years (36%). The age group of 20–25 years accounted for 16%, while only 6% were above 35 years. Regarding working status, more than half of the mothers were working (56%), and 44% were not working. In relation to the number of children, equal proportions of mothers had one child (42%) and two children (42%), while 14% had more than two children. One response was missing for this variable (2%).

Table 2: Effectiveness of Structured Teaching Programme

Knowledge Score	Median	IQR	Test Value	P value
Pre-test	5	4-7	1275	<0.001
Post-test	14	13-14		

The median pre-test knowledge score was 5 (Q1–Q3: 4–7), whereas the median post-test knowledge score was 14 (Q1–Q3: 13–14), indicating a marked improvement after the intervention. Wilcoxon signed-rank test was applied to compare pre-test and post-test scores. The computed test value (V = 1275) was found to be statistically significant at the 0.05 level ($p < 0.001$). Therefore, the structured teaching programme was effective in significantly improving the knowledge of mothers regarding febrile seizures.

Table 3: Association between Demographic Variables and Knowledge

Variables	Poor ()	Average	Good	p value
Age of mother				0.2777
20-25	8(22.9%)	0(0)	0(0)	
25-30	14(40.0%)	6(46.2%)	1(50%)	
30-35	12(35.3%)	5(38.5%)	1(50%)	
Above 35	1(2.9%)	2(15.4%)	0(0)	
Working Status				0.2519
Yes	17(48.6%)	9(69.2%)	0(0)	
No	18(51.4%)	4(30.8%)	2(100%)	
Number of children				0.9047
1	15(42.9%)	5(38.5%)	1(50%)	
2	15(42.9%)	5(38.5%)	1(50%)	
Above 2	4(11.4%)	3(23.1%)	0(0)	

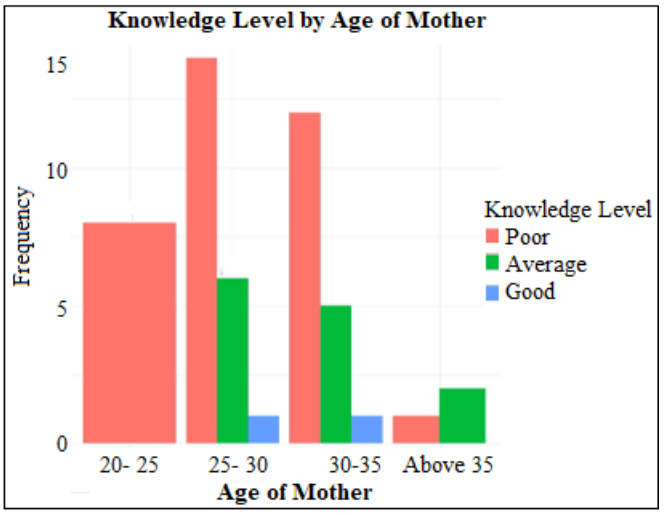
Frequency and percentage presented for categorical variable

The association between selected demographic variables and pre-test knowledge levels of mothers regarding febrile seizures was analysed using Fisher's exact test, as several cells had expected frequencies less than five, making the chi-square test inappropriate. Knowledge scores were categorized into poor, average, and good based on predefined scoring criteria.

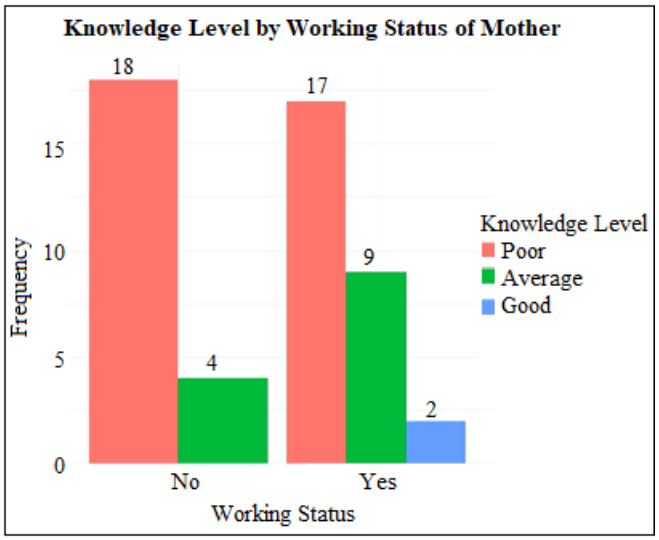
The distribution of knowledge levels across age groups indicated that the majority of mothers had poor knowledge, followed by average knowledge, with only a few demonstrating good knowledge. However, there was no statistically significant association between age of the mother and knowledge level ($p = 0.2777$).

Similarly, the association between working status and knowledge level did not show statistical significance ($p = 0.2519$), despite observable differences in the distribution of knowledge categories.

With respect to the number of children, knowledge levels were predominantly poor across all categories, and no statistically significant association was found ($p = 0.9047$). One response in the number of children variable was missing and was excluded from the analysis. p-values were greater than 0.05, the null hypothesis was accepted, indicating that the selected demographic variables were not significantly associated with the baseline knowledge of mothers regarding febrile seizures.



Graph 1: Knowledge level by age of the mother before the teaching programme



Graph 2: Knowledge level by working status of the mother before the teaching programme

8. Discussion

The present study aimed to evaluate the effectiveness of a structured teaching programme on mothers' knowledge regarding febrile seizures.

The findings revealed that most mothers initially had poor knowledge, irrespective of age, occupation, or number of children. This indicates a general lack of awareness about febrile seizures among caregivers, which is consistent with several previous studies conducted in similar community settings.

Following the structured teaching programme, there was a significant improvement in knowledge scores, as evidenced by the increase in median score from 5 to 14. This highlights the effectiveness of planned educational interventions in improving awareness and understanding among mothers. The use of the Wilcoxon signed-rank test further confirmed that the improvement was statistically highly significant ($p < 0.001$).

The study also examined whether demographic variables influenced knowledge levels. However, no significant associations were found between knowledge and factors such as age, working status, or number of children. This suggests that lack of knowledge about febrile seizures is a widespread issue and not limited to any specific subgroup. Therefore, educational interventions should be targeted at all mothers rather than focusing on particular demographic categories.

These findings emphasize the importance of health education programmes in pediatric care settings. Nurses and healthcare professionals play a crucial role in educating mothers, which can help reduce anxiety, prevent complications, and promote appropriate management during febrile seizure episodes.

9. Conclusion

The study concludes that:

Mothers of children below 5 years had inadequate baseline knowledge regarding febrile seizures. The structured teaching programme was highly effective in improving knowledge levels. There was no significant association between demographic variables and baseline knowledge. Thus, structured educational interventions are essential and should be implemented routinely in health care settings to enhance mother's knowledge and preparedness in managing febrile seizure

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