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Assessment of Knowledge on Febrile Seizures among Mothers of Under Five Children in Selected Hospital Chennai

S Mahalakshmi[1], M Hemamalini[2]

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Author's Affiliations: [1]Associate Professor, Shri Sathya Sai College of Nursing, Sri Balaji Vidyapeeth University, Ammapettai, Nellikuppam, Chengalpattu District, Tamil Nadu 603108, India. [2]Principal, Hindu Mission College of Nursing, Tambaram, Chennai, Tamil Nadu 600045, India.

Corresponding Author: S Mahalakshmi, Shri Sathya Sai College of Nursing, Sri Balaji Vidyapeeth University, Ammapettai, Nellikuppam, Chengalpattu District, Tamil Nadu 603108, India.

E-mail: mahavenkat08@yahoo.in

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Abstract

Introduction: Generally, the age between 6 months to 5 years of children affected by febrile seizures, the risk peaking arise in the age of second year of life. When the first febrile seizure occurs in an older child is to have more febrile seizures as they will spend less time in the age group at risk. *Objectives:* To assess the knowledge on febrile seizures among mothers of under five children. *Methodology:* Quantitative approach and descriptive research survey design was adopted for the study. The variables studied are research variable and demographic variables. The study was conducted for Pediatric outpatient Department at Hindu Mission Hospital, Kancheepuram District. The Accessible Population constitutes of five Children who attended the Pediatric outpatient Department in Hindu Mission Hospital. The Sample Size for this Present Study was 30. Non Probability purposive Sampling Technique was adopted for the Study. The tool which is used for the data collection was structured questionnaires developed by the investigator which consists of 2 sections which includes demographic variables and structured questionnaire on febrile seizures. *Results:* The results reveal that 57% (17) of Mothers had moderate knowledge, 43% (13) mothers had inadequate knowledge and none of the mothers had adequate knowledge on febrile seizure. *Conclusion:* The majority of mothers had moderate knowledge hence knowledge on febrile seizures among the under five mothers can be enriched through awareness program and training on first aid measures on seizures.

Keywords: Febrile seizures; knowledge; Mother; Mortality.

Introduction

Febrile seizures are convulsions or seizures in infants that are brought on by a febrile illness. The seizures may come before the fever to the infant. Most often during a febrile seizure, a child losses consciousness and shakes uncontrollable. Less commonly, a child becomes rigid or has twitches in only a portion of the body. Most febrile seizures last a minute some can be as brief as a few seconds, while others may last for more than 15 minutes. Approximately one in every 25 children affected by febrile seizure. Generally, the age between 6 months to 5 years of children affected by febrile seizures, the risk peaking arise in the age of second year of life. When the first febrile seizure occurs in an older child is to have more febrile seizures as they will spend less time in the age group at risk. Some of the factors appear to boost a child's risk to recurrent febrile seizures, including a family history of febrile

seizures in a first- or second-degree relative, a young age, i.e. less than 18 months child at the first febrile seizure, having a lower peak temperature during the illness when the febrile seizure occurs and fever is recognized within an hour.[1]

Febrile seizures tend to run in families. The risk of having seizures with other episodes of fever depends on the age of your child. The younger children less than age of 1 year at the time of their first seizure have about 50% chance of having another febrile seizure. Children having the age of 1 year at the time of their first seizure have only a 30% chance of having a second febrile seizure. Between 2% and 5% of children have febrile seizures by their fifth birthday.[2]

In Western Europe similar rate of febrile seizures is found. In world febrile seizures varies between 5% and 10% for India, 8.8% for Japan, 14% for Guam, 0.35% for Hong Kong, and 0.5–1.5% for China. Children with simple febrile seizures do not have increased mortality risk. However, seizures that were complex, occurred before age of 1 year, or were triggered by a temperature of less than 39°C were associated with a 2-fold increased mortality rate during the first 2 years after seizure occurrence. Children with febrile seizures have a slightly higher incidence of epilepsy compared with the general population, i.e. 2% vs. 1%. Risk factors for epilepsy later in life includes complex febrile seizure. Family history of epilepsy or neurologic abnormality and developmental delay. Patients with two risk factors have up to 10% chance of developing a febrile seizures.[3]

In case of series analysis of a cohort of 3,23,247 US children born between 2004 and 2008, Hambidge et al. concluded that there was a delaying the first dose of Measles-Mumps-Rubella (MMR) or measles-mumps-rubella-varicella (MMRV) vaccine beyond the age of 15 months may cause more than double the risk of post vaccination seizures in the second year of their life. For infants, there was no association between vaccination timing and post vaccination seizures. In the second year of life, however, the incident rate ratio (IRR) for seizures within 7–10 days was 2.65 (95% confidence interval [CI], 1.99–3.55) after first MMR doses at 12 to 15 months of age compared with 6.53 (95% CI, 3.15–13.53) after first MMR doses at 16 to 23 months. For MMRV vaccine, the IRR for seizures was 4.95 (95% CI, 3.68–6.66) after first doses at 12 to 15 months compared with 9.80 (95% CI, 4.35–22.06) for first doses at 16 to 23 months.

The total population were recorded in the Korean Statistical Information Service database was compared with the population covered by NHI. If the populations were very similar and the number recorded as being covered by health insurance that was exceeded in the total population for few of the years. The number of patients with FS younger than 10 years were 38,659 in 2009, 43,522 in 2010, 34,888 in 2011, 45,624 in 2012, and 23,173 in 2013. The prevalence of FS in Korea in those younger than five years was 69.2/1000 (76.7/1000 for boys and 61.2/1000 for girls). The prevalence peaked among children who were aged two years on a last day of each calendar year and the age range of the peak prevalence included those aged 18 to 30 months. The occurrence rates in children younger than 4, 5 and 6 years were compared with the total occurrence rate in children younger than 10 years; these were 84.1, 90.7 and 94.4% respectively.[4]

Risk factors of recurrence of febrile seizures in children in a tertiary care hospital in Kanpur: One year follow up study out of 528 children, 174 (32.9%) had recurrence and 354 (67.1%) had a single episode of febrile seizures. Recurrence was more in children less than 18 months (41.3%) as compared to children ≥18 months (24.1%). Children have a temperature of 101°F during the seizure had a recurrence rate of 52.5% while recurrence was seen only 17.2% in the children with temperature ≥ 105°F. There was a significant declining trend of recurrence with increase in temperature. Recurrence was significantly more common in children with a family history of febrile seizures (45.5%) as compared to those without family history (27.8%). Multiple logistic regression analysis revealed that younger age at onset of first seizure, lower temperature during the seizure, small duration between the onset of fever and the initial seizure, and family history of febrile seizures were risk factors significantly associated with recurrence of febrile seizures in children. *Conclusion:* The younger age at first seizure occurs in short duration of fever before onset of first febrile seizure, lower temperature at onset and family history of febrile seizures are risk factors of recurrence of febrile seizures in children.[5]

Materials and Methods

Descriptive research survey design and Quantitative approach was adopted for this study. The variables studies are research variable which include knowledge on febrile seizure among the mothers with under five children, where as the demographic variables includes the Age of Child, Sex of Child, Child rank, Type of Family, Religion,

Mother's Age, Mother's Education, Mother's Occupation, Father's Age, Father's Education, Father's Occupation, Family Income. The study was conducted at Pediatric Outpatient Department at Hindu Mission Hospital, Kancheepuram District. The Accessible Population constitutes of under five Children who attended the pediatric outpatient Department in Hindu Mission Hospital. The Sample Size of this Present Study was 30. Non Probability purposive Sampling Technique was adopted for the Study.

Inclusion criteria

1. Mother's who were having under five children
2. Mother's who are all willing to participate in the study
3. Mother's who can understand Tamil and English Language

Exclusion criteria

1. Mother's who were absent on the day of data collection.
2. Mothers who were not cooperative.

The tool used for the data collection was structured questionnaires developed by the investigator which consists of 2 sections.

Section A

Demographic Data which consist of the item for obtaining information about the selected back grounds factors such as Age, Sex of Child, Child rank, Type of Family, Religion, Mother's Age, Mother's Education, Mother's Occupation, Father's Age, Father's Education, Father's Occupation, Family Income.

Section B

A structured questionnaire developed by the investigator was used to assess the knowledge on febrile seizure. A Structured Questionnaires consists of 20 Statements in 4 aspects Causes, Management, Prevention and Complication.

The Study was approved by ethical committee of Hindu Mission Hospital and Hindu Mission College of Nursing. The investigator explains the objectives and method of data collection. Data Collection was done within the given specific period of one week in Hindu Mission Hospital. The data collection was done during the day time self introduction about the researcher and details about study was explained to the samples and the consent was obtained. The confidentiality about the data finding was assured to participants. The participants to 15 minutes to complete the tool and their cooperation were good. The collected data was coded and statistical analysis was done.

Results

Results are given in Tables 1 and 2.

Table 1: Distribution of demographic variables of the mothers with under five children

N = 30

S. No	Demographic variables		Frequency (*f*)	Precentage (%)
1.	**Age**	0–1 year	9	30.00
		1–3 years	11	36.67
		3–4 years	1	3.33
		4–5 years	9	30.00
2.	**Sex of the Child**	Male	20	66.67
		Female	10	33.33
3.	**Child Rank**	1st Child	17	56.67
		2nd Child	12	40.00
		3rd Child	1	3.33
4.	**Type of Family**	Nuclear	12	40.00
		Joint	18	60.00
5.	**Religion**	Hindu	17	56.67
		Muslim	4	13.33
		Christian	9	30.00
6.	**Mother's age**	18–20 years	1	3.33
		21–25 years	7	23.33
		26–30 years	9	30.00
		31–35 years	13	43.33

(Contd.)

S. No	Demographic variables		Frequency (*f*)	Precentage (%)
7.	**Mother's Education**	Primary School	1	3.33
		High School	3	10.00
		Higher	5	16.67
		Secondary	21	70.00
		Graduate		
8.	**Mother's Occupation**	Unemployed	12	40.00
		Professional	7	23.33
		Self-employed	5	16.67
		Others	6	20.00
9.	**Father's Age**	20–25 years	1	3.33
		26–30 years	4	13.33
		31–35 years	14	46.67
		36–40 years	11	36.67
10.	**Father's Education**	Primary School	1	3.33
		High School	1	3.33
		Higher	2	6.67
		Secondary	26	86.67
		Graduate		
11.	**Father's Occupation**	Unemployed	0	0.00
		Professional	16	53.33
		Self-employed	10	33.33
		Others	4	13.33
12.	**Family Income**	Below 5000	1	3.33
		5001–15000	6	20.00
		15001–25000	11	36.67
		25001 above	12	40.00

Table 2: Assessment of level of knowledge regarding febrile seizer among mothers with under five children with their demographic variables

S. No	Level of knowledge (*f*)	Frequency (%)	Precentage
1.	Adequate (16–20)	0	0
2.	Moderate (10–15)	17	57
3.	Inadequate (<10)	13	43

Discussion

It was evidence that febrile seizure are associated with an increased risk of subsequent epilepsy and that epilepsy develops in 2 to 4% of children with a history of febrile seizure. Although it was accepted that a single brief simple FS is benign with no clinical consequences, the risk of developing epilepsy can be as greater than 57% in children with focal, prolonged and recurrent febrile seizure.

A prospective cohort study was performed using children presenting with first febrile seizure observed that developmental delay was associated with prolonged febrile seizure. There are greater frequencies of delays in reaching developmental motor milestones at baseline in children with long versus short FS. Thus, the children with prolonged FS are more likely to be neurologically abnormal than children with single, short, nonfocal febrile seizure.

In Addition, having more than one complex feature of a febrile seizure further increased the risk of developing subsequent unprovoked seizures. Risk factors for developing epilepsy after febrile seizure include neurodevelopment abnormality, complex FS, family history of epilepsy and duration of fever there is no evidence that preventing febrile seizure prevents the development of epilepsy.[6]

The focus of the study was to assess the knowledge on febrile seizure among mothers with under five children, Hindu Mission Hospital in Pediatric out Patient department. The results reveal that 57% (17) of Mothers had moderate knowledge, 43%(13) mothers had inadequate knowledge on febrile seizure

The similar study was conducted January 2017 in Department of Paediatric of a tertiary care hospital KIMS, Bangalore. 110 children with febrile convulsion in the age group of 6 months to 5 years were enrolled. Out of 110 children, 82 had single

convulsion and 28 had recurrent convulsions. Mean age of onset of first febrile convulsion was 20 months. About 50 (45.45%) had experienced convulsion with one-episode of fever. Only 46 (41.8%) of parents recognized convulsion. Others interpreted convulsion as shivering (20.9%), evil effect (7.2%), excessive cry tantrum (10.9%), fainting spell (8.18%) and lethargy (20%). 88 (80%) did not carry out any intervention prior to getting the child to hospital. Effect of convulsion on parents was fear of death (82.7%), fear of epilepsy (17.3%), fear of recurrence (34.5%). 85% parents did not know that convulsion can occur due to fever. 32% thought that traditional treatment would help. Only 38% had thermometer at home and 23% knew the normal range of body temperature. Preventive measures were known to be 44%.[7]

Conclusion

The distinct of the study was to assess the knowledge on febrile seizure among mothers with under five children, Hindu Mission Hospital in Pediatric out Patient department. The results revealed that 57% (17) of Mothers had moderate knowledge, 43% (13) mothers had inadequate knowledge on febrile seizure. As seizures in their child could be very frightening for the parents they should be counselled properly with particular emphasis on: (*i*) The benign nature of the febrile seizures; (*ii*) That febrile seizures do not lead to neurological problems or develop-mental delay; (*iii*) What they should do immediately if their child has another seizure; (*iv*) A doctor should be consulted if the seizure lasts for more than 15 min. or if the post ictal drowsiness persists for more than 30 min. Appropriate education and emotional support should be provided to parents. In situations where severe parental anxiety is associated with febrile seizures, intermittent therapy may be advised; continuous antiepileptic therapy was rarely used. Recent epidemiologic studies have also confirmed that the vast majority of children with febrile seizures have a benign prognosis and a normal long term outcome.[8]

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