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A RETROSPECTIVE STUDY OF FEBRILE SEIZURE AMONG CHILDREN ADMITTED IN TIRUPPUR GOVERNMENT HOSPITAL

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ABSTRACT

Background: Convulsion is the most common neurologic finding in children. The aim and Objectives were to study the demographic profile and some risk factors of febrile seizures among children. **Methods:** A record based descriptive cross-sectional study was conducted at paediatric department of government district headquarters hospital, Tiruppur. Considering inclusion & exclusion criteria all children in the 6 month to 6 year age who were diagnosed as having febrile convulsion admitted during January to December 2018 were included in the study. **Results:** Of the 150 children 88 (58.7%) were boys and 62 (41.3%) were girls. 38.7% children were in the 2-3 year age group. In this study, 132 (88%) of the patients had simple and 18 (12%) had the complex form of febrile seizure. In our study, 124 (82.7%) of affected children had negative family history of febrile seizure. In this study, 134 patients (89.3%) were not get affected by the post immunization. Most of the febrile seizure lasting for 5-10 minutes (50%). URTI (43%) followed by viral illness (32.7%) was the most common co-morbidity. **Conclusions:** In this study we concluded that febrile seizure is mostly affected the age group between 2-3 years old and also mainly affected in male child and it last 5-10 minutes. In my study most of them showing the recurrences, the age, sex, increased body temperature and infections is the major risk factor for febrile seizure except the family history. Here commonly occurring seizure is generalized seizure while comparing with partial seizure.

KEYWORDS: Febrile seizure, Upper respiratory tract infection, Viral illness

INTRODUCTION

The febrile seizure is defined by the International League (ILAE), against Epilepsy as a seizure occurring in association with a febrile illness, in the absence of central nervous system infection or the acute electrolyte imbalance in children older than 1 month of age without prior a febrile seizure. This definition is similar to the one adopted by the National Institutes of Health (NIH) Consensus Conference, except that the NIH definition described, a febrile seizure as an event that usually occurring between the age of 3 months and 5 years. The febrile illness must include a body temperature of more than 38.3° C (>100^0F), although the increased temperature may not occur until after the seizure.

Approximately the one-third of children will have recurrent febrile seizures during early childhood, and the chances of risk is increased in association with certain clinical features, including young age, fever, infections, family history of febrile seizures, and abnormal development at the time of first seizure. Febrile seizures are classified as simple or complex. Simple febrile seizures are the most common type and are characterized by a generalized seizure lasting less than 10 to 15 minutes. Complex febrile seizures are focal, prolonged, or recurrent within a 24-hour period. In most of the patients, fever is due to upper respiratory system and urinary tract infection (UTI).

MATERIALS AND METHOD

Study site: The study is conducted in pediatric department of government district headquarters hospital, Tiruppur, Tamil Nadu.

Study design: Descriptive cross-sectional study.

Study period: January 2019- October 2019.

Study population: 150 patients.

Inclusion criteria

- patients of age group between 6 months to 6 years and diagnosed as febrile seizure admitted during January to December 2018 were included in the study.

Exclusion criteria

- All other seizure disorder patients excluding febrile seizure were excluded from this study. Also, patient age less than 6 months and more than 6 years were excluded from the study.

Study Procedure

This is a Retrospective record based descriptive cross-sectional study were conducted from government headquarters hospital, Tiruppur. From January 2019-october 2019. The study involves two steps.

1. Collection of the prescription

The prescription were collected from the pediatric medical record department of government district headquarters hospital, Tiruppur. The study is from January 2019 to October 2019. The study was conducted in retrospective manner. The data was collected and entered in Proforma.

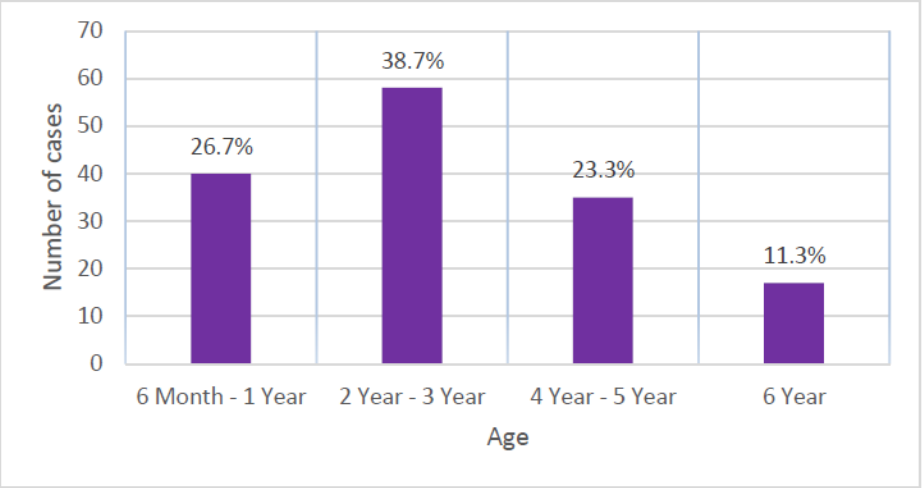
2. Statistical analysis

The information collected regarding all the selected cases recorded in the Proforma and data analysis was done. The collected data was tabulated and entered in the Excel, and analyzed for individual parameters like age, gender, duration of seizure, others by making a table first and then followed by graphical representation of the data.

RESULTS

Table 1: Distribution of patients based on Age.

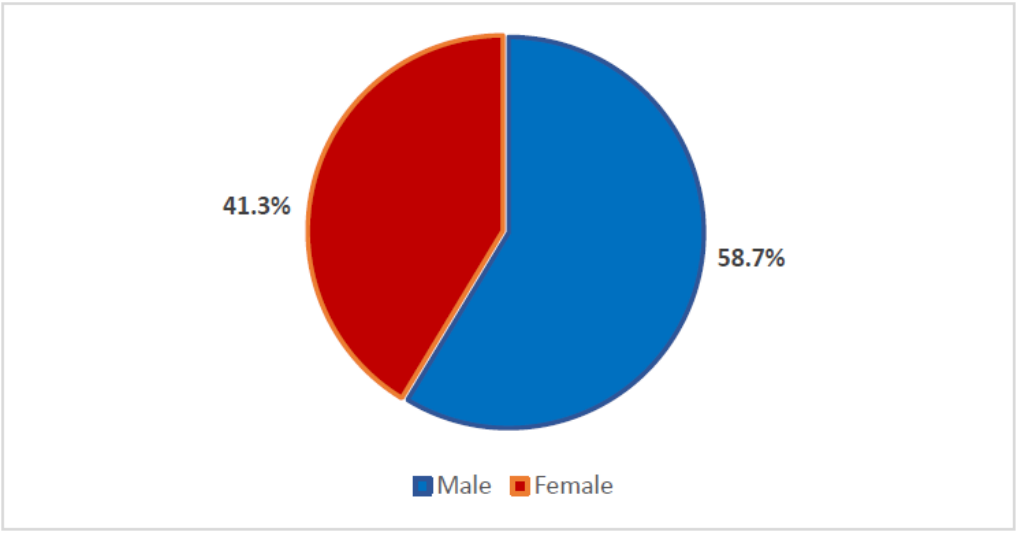
Age	Number of cases (n=150)	Percentage (%)
6 months – 1 year	40	26.7 %
2 year - 3 year	58	38.7 %
4 year - 5 year	35	23.3 %
5 year – 6 year	17	11.3 %



In this study the majority of the children were affecting in between 2 to 3 years of age. The peak ratio is 38.7%. Followed by the 26.7% will be underlying in the age group of 6 months to 1year.

Table 2: Distribution based on Gender.

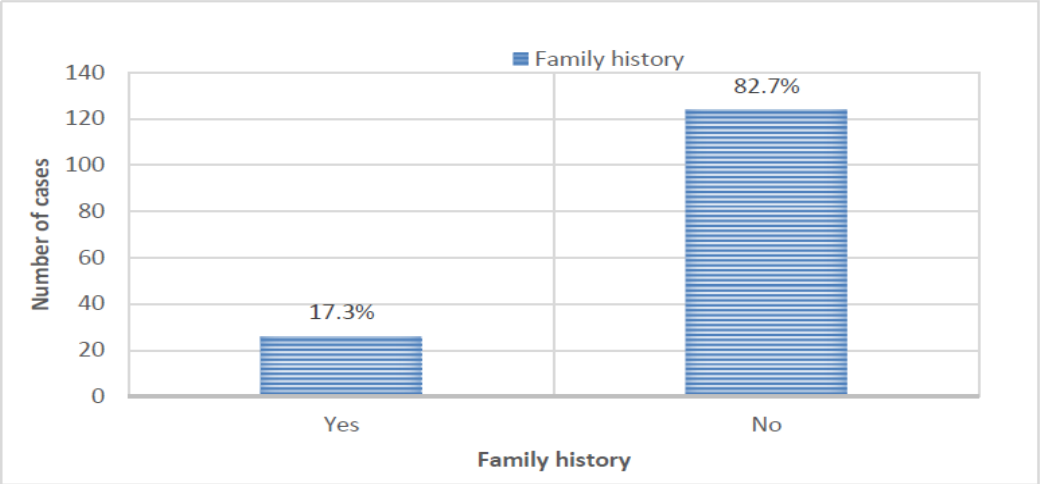
Gender	Number of cases (n= 150)	Percentage (%)
Male	88	58.7 %
Female	62	41.3 %



Prevalence of Febrile seizure was predominant in male than female. The male sex accounted for high percentage (58.7%), for female (41.3%). Comparing with other studies shows that the Male sex having more chances to get affects with the febrile seizure.

Table 3: Distribution of patients based on Family History.

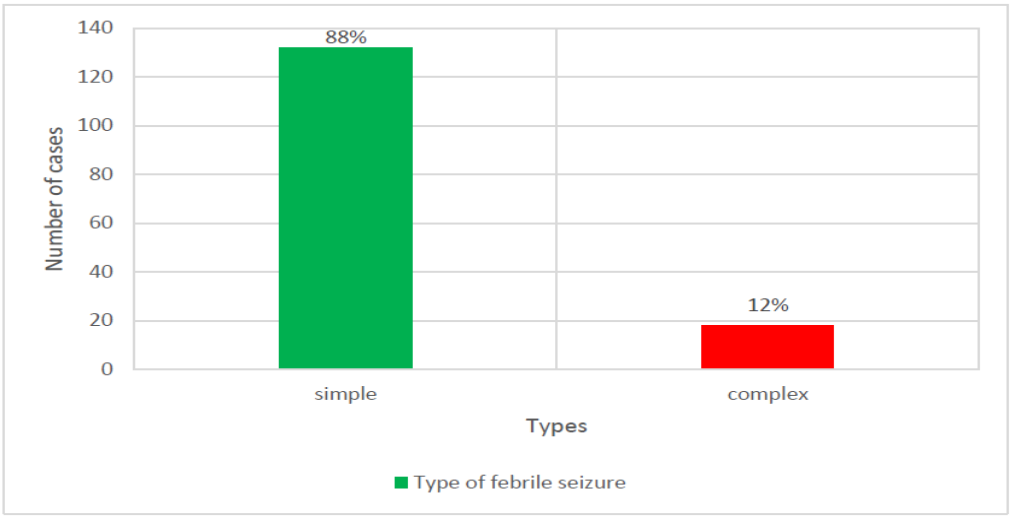
Family history	Number of cases (N = 150)	Percentage (%)
Yes	26	17.3 %
No	124	82.7 %



Here 124 patients (82.7%) had a Negative family history of febrile seizure. In this study we didn't find a significant association of febrile seizure with the family history.

Table 4: Distribution based on the type of febrile seizure.

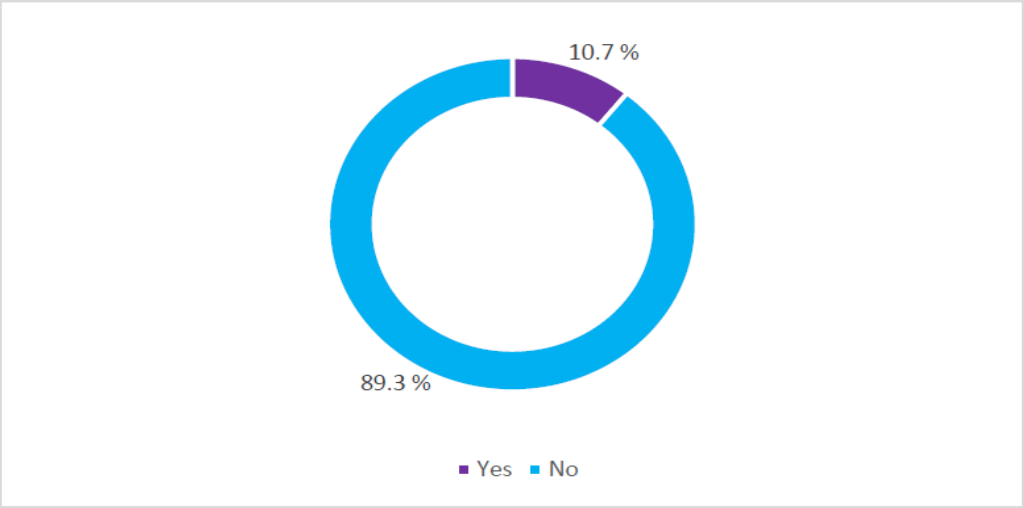
Type of febrile seizure	Number of cases (N = 150)	Percentage (%)
Simple	132	88%
Complex	18	12%



In this study, 132 children (88%) were suffering from simple febrile seizure, 18 children (12%) were suffering from the complex febrile seizure. Most children are underlying with the simple febrile seizure.

Table 5: Patient distribution Based on Post immunization.

Post immunization seizure	Number of cases (N=150)	Percentage (%)
Yes	16	10.7 %
No	134	89.3 %



In this study, 134 patients (89.3%) were not get affected by the post immunization. 16 patients (10.7%) were febrile seizure identified after the immunization.

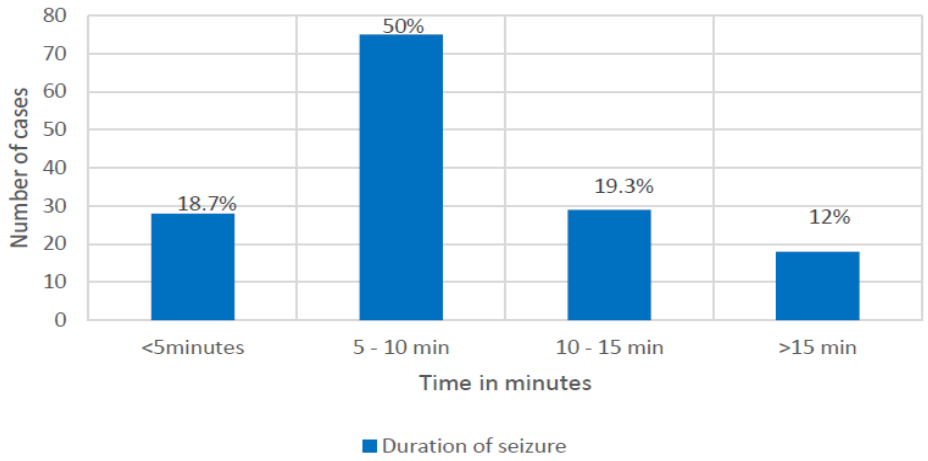
Table 6: Distribution of patients based on the recurrence of seizure.

Recurrence	Number of cases (N = 150)	Percentage (%)
Yes	82	54.7 %
No	68	45.3 %

During this study the recurrence after first febrile seizure is 82 (54.7%) and less recurrence for 68 patients (45.3%).

Table 7: Distribution of patients based on the duration in minutes.

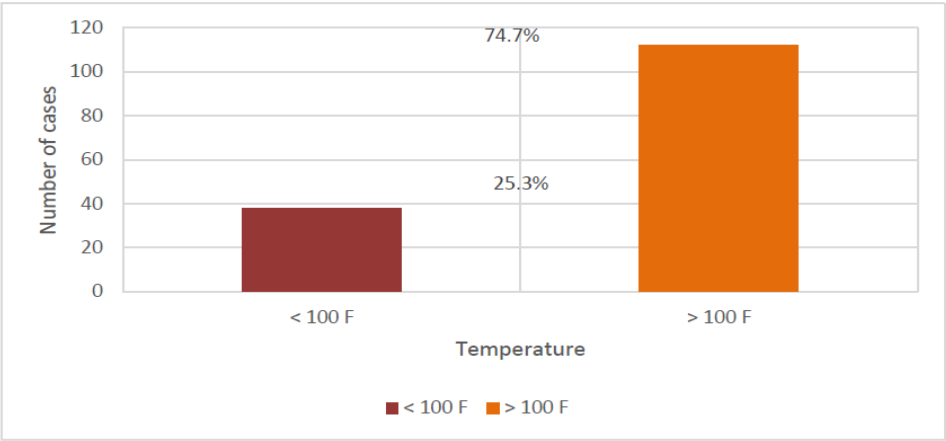
Duration in minutes	Number of cases (N = 150)	Percentage (%)
< 5 minutes	38	18.7%
5 -10 minutes	75	50 %
10 - 15 minutes	19	19.3%
>15 minutes	18	12 %



In this study we found that Most of the febrile seizure lasting for 5-10 minutes (50%), followed by 10-15 minutes (19.3%), >15 minutes (12%).

Table 8: Distribution of patients based on the body temperature.

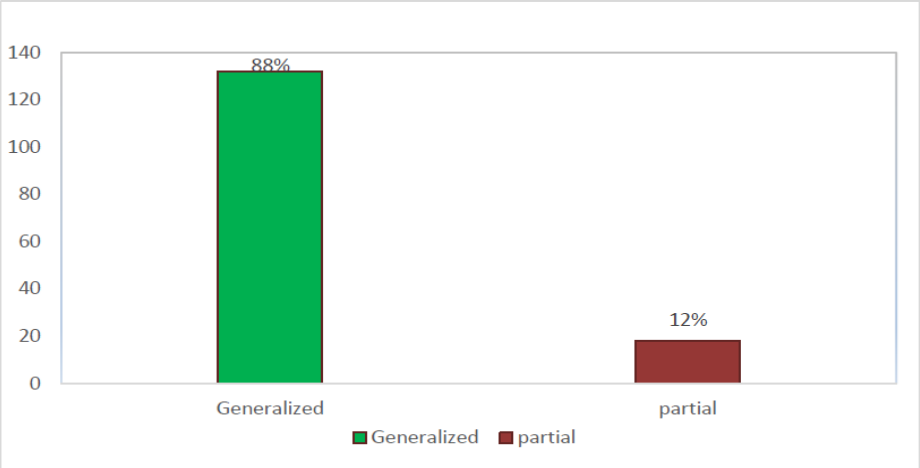
Temperature	Number of cases (N=150)	Percentage (%)
< 100 F	38	25.3 %
> 100 F	112	74.7 %



In this study 112 patients (74.7%) were having the body temperature more than 100 0 F, and 38 patients were having (25.3%). So, the most of the febrile seizure inducing by the high body temperature.

Table 9: Distribution of patients based on type of convulsion.

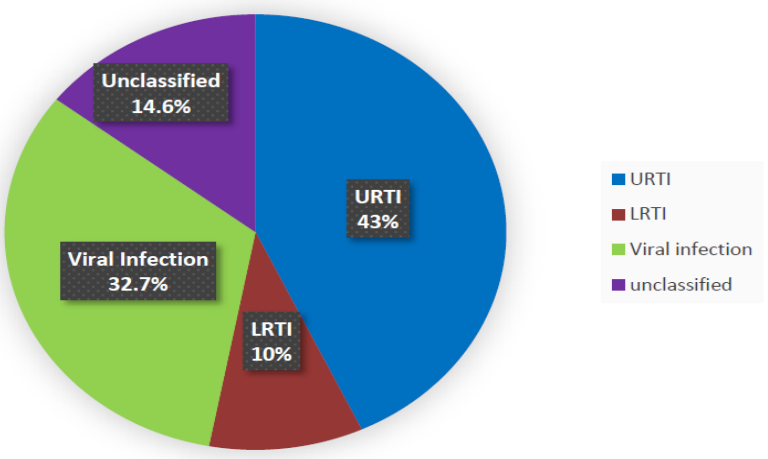
Type of convulsion	Number of cases (N = 150)	Percentage (%)
Generalized	132	88 %
partial	18	12 %



In this study we found that the distribution of patients Based on the type of convulsion the mostly occurring type was generalized of 88%, and the partial seizure is very less of 12%.

Table 10: Patient distribution based on Etiology.

Ethiology	Number of cases (N=150)	Percentage (%)
Upper respiratory tract infection (URTI)	65	43%
Lower respiratory tract infection (LRTI)	15	10%
Viral illness	49	32.7%
Unclassified	21	14.6%



URTI was the most common cause of febrile seizure in my study (43%) although the underlying pathogens was not determined. 15 cases were found with LRTI (10%) and the

second most causes of febrile seizure is due to the viral illness (32.7%). Some cases are underlying in unclassified (14.6%).

CONCLUSION

The febrile seizure are the most common type of seizure observed in the pediatric age group, although described by the ancient Greek, it was not until this century that febrile seizure were recognized as a distinct syndrome separate from epilepsy. In this study we concluded that febrile seizure is mostly affected the age group between 2-3 years old and also mainly affected in male child and it last 5-10 minutes.

In my study most of them showing the recurrences, the age, sex, increased body temperature and infections is the major risk factor for febrile seizure except the family history. Here commonly occurring seizure is generalized seizure while comparing with partial seizure. And also, we concluded that the main etiology of febrile seizure is upper respiratory tract infection.

Prevention from infections and Proper treatment is the better way to reduce the risk of occurrence of febrile seizure.

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REFERENCES

1. Text book of Swaiman's Pediatric Neurology (Sixth Edition), 2017; 519-523.
2. John J Millichap, Treatment and prognosis of febrile seizures, J Med, Dec 21, 2018.
3. Alexander KC Leung, Kam Lun Hon and Theresa NH Leung, Drugs Context, 2018 July 16.
4. Nikhil Patel, Dipak Ram, Nina Swiderska, grid, Leena D Mewasingh, Richard W Newton, Febrile seizures, 18 August 2015.
5. Kirsi Mikkonen, Matti Uhari, Tytti Pokka, Heikki Rantala, Diurnal and Seasonal Occurrence of Febrile Seizures, April 2015; 52(4): 424–427.
6. Indar Kumar Sharawat, Jitender Singh, Lesa Dawman, Amitabh Singh Journal of Clinical and Diagnostic Research for doctors, 2016 May; 10(5): SC10–SC13.

7. Hauser WA. The prevalence and incidence of convulsive disorders in children. Epilepsia, 1994; 35: S1–6.
8. Veisani Y, Delpisheh A, Sayehmiri K, Familial history and recurrence of febrile seizures; a systematic review and meta-analysis. Iran J Pediatr, 2013 Aug; 23(4): 389-95.
9. J. Gordon Millichap, MD J. Gordon Millichap Role of Viral Infections in the Etiology of Febrile Seizures, Journals of pediatric neurology, September 2006; 35(3): 165–172.
10. Leena D. Mewasing, Clinical Evidence Concise a Publication of BMJ publishing group, 2008 Nov 15; 78(10): 1199.