

## Moms' behavior towards the children's Febrile Seizure

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### ABSTRACT

Febrile Seizure are one of the most common health issues experienced by children; if not promptly handled correctly, they can pose fatal risks leading to death. The main objective of this study is to try to obtain an overview of maternal behavior in managing fever convulsions in children. A literature review method was utilized for this study. Data was systematically gathered from journals and scientific databases and processed accordingly. The review's findings indicate several crucial points. Firstly, maternal knowledge regarding the management of fever convulsions is still relatively low, necessitating improvement, either through education or independently by the mothers. Secondly, there is a strong correlation between the mother's level of knowledge and her ability to manage a child experiencing fever convulsions. Studies reviewed found that the level of skill possessed by the mother significantly determines her capability to handle febrile seizure experienced by the child.

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### 1. INTRODUCTION

The discussion about febrile seizures in children never diminishes for at least two reasons. First, febrile seizures are one of the most common health disorders affecting children. Second, there is still a lack of knowledge among close individuals, especially mothers, regarding the management of febrile seizures in children, leading to frequent moments of panic when a child experiences febrile seizures.

Febrile seizure is interpreted as intermittent clinical manifestations that can involve disturbances in consciousness, behavior, emotions, motor skills, sensory, and/or autonomic functions caused by the release of electrical charges in brain neurons (Ismet, 2017). This occurs as a result of an increase in body temperature (exceeding 38°C). The normal temperature for children under 3 years of age generally ranges around 38°C, with normal oral temperature up to 37.5°C. Meanwhile, in children aged above 3 years, the normal rectal temperature is around 37.8°C, with normal oral temperature up to 37.8°C, according to the American Academy of Pediatrics (Ismet, 2017). Therefore, an increase in body temperature beyond these values should be monitored as it is an abnormal situation and potentially an early symptom of more serious health problems.

Febrile seizures are a common health problem that occurs globally. The World Health Organization (WHO) estimates that there were 18.3 million people with febrile seizures in 2019, resulting in 154 thousand deaths. The incidence and proportion in Asia show a higher prevalence of febrile seizures, ranging from 8.3% to 9.9% in 2016. In Europe, the proportion of febrile seizures in the same year was around 2-4% (Pelealu et al., in Perdana, 2022).

The specific causes of febrile seizures in children are not yet precisely known, but viral infections are most commonly considered a factor associated with the occurrence of febrile seizures in children. In Europe and the United States, viruses such as HHV-6 are considered the most common cause of febrile seizures, while in Asian countries, the influenza A virus is the most frequent cause (Yunerta, 2021). Any fever that typically results in a significant increase in temperature can potentially lead to febrile seizures.

Febrile seizures are a medical emergency that requires immediate action. Prolonged febrile seizure situations (more than 15 minutes) have the potential to cause brain damage or even death (Suparjo, et al., 2019). Brain injury or damage itself poses a serious threat to a child's intellectual development (resulting in memory loss and learning disabilities) and can lead to mental retardation.

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Parents, especially mothers, as the closest figures to children, should have sufficient knowledge about child health, including preventive measures and how to handle if a child experiences symptoms of febrile seizures. The knowledge and skills of the mother are the best opportunity to ensure that febrile seizures experienced by a child do not develop into a more serious and potentially fatal problem. This study was conducted to obtain an overview of maternal behavior in managing febrile seizures experienced by children.

## 2. METHOD

This study utilized a literature review as a research method. In searching for and selecting the literature used, the author employed the PICO strategy (PICO framework) with inclusion criteria for articles from national and international journals closely related to the research topic, which is maternal behavior in handling febrile seizures in children (and other influencing variables). The findings consisted of articles/journals presenting data on maternal behavior in handling febrile seizures in children, with a Cross-Sectional study design, published from 2017 to 2023, and written in Indonesian. Literature selection was performed using databases such as Google Scholar, Mendeley Search, Portal Garuda, DOAJ, and Science Direct, employing the keywords "mother" AND "behavior" AND "Management of Febrile Seizures in Children," which were then identified, screened, and assessed for eligibility, resulting in 7 articles that met the inclusion criteria.

## 3. RESULT AND DISCUSSION

The article selection process using the PICO framework resulted in 7 selected articles that met the established selection criteria. All 7 of these articles are studies on maternal behavior in managing febrile seizures in children.

No.	Writer	Title (year)	Method	Istrument	Results
1	Jayanti Dwi Puspitasari, Nani Nurhaeni & Allenidekania	Education Improves Mothers' Knowledge and Attitudes in Preventing Recurrent Febrile Seizures (2020)	Quasi experiment dengan pretest & posttest pada non-equivalent control group	Questionnaires & Audiovisual Media	There is an influence of health education on knowledge ( $p= 0.001$ ) and attitudes ( $p= 0.001$ ). Education can be incorporated into the nursing care plan when a child is first admitted to the hospital for febrile seizures, as it has been proven to increase the mother's knowledge, enabling her to take positive actions to prevent recurrent febrile seizures.
2	Sena Hersandi Sala, Nur Eni Lestari & Eka Rokhmiati	The Relationship Between Maternal Knowledge and Anxiety Level with the Management of Febrile Seizures	Cross sectional	Questionnaires	The majority of mothers have insufficient knowledge (54.4%), a majority experience severe anxiety levels (52.2%), and the majority have inadequate management

No.	Writer	Title (year)	Method	Istrument	Results
		in Preschool-Aged Children (2022)			of febrile seizures (63.0%). The correlation test between knowledge and the management of febrile seizures resulted in a (p-value of 0.022). Meanwhile, the test between anxiety levels and the management of febrile seizures yielded a (p-value of 0.201). There is a relationship between maternal knowledge and the management of febrile seizures, while there is no correlation between maternal anxiety levels and the management of febrile seizures. This can be considered as a recommendation for providing education to mothers with children experiencing febrile seizures.
3	Hutri Engla Resti, Ganis Indriati & Arneliwati	Overview of Mothers' First Aid in Managing Febrile Seizures in Toddlers (2020)	Descriptive with a retrospective approach	Questionnaires	Some of the respondents have performed initial management of febrile seizures, including staying calm and not panicking (90.4%), not loosening the child's clothing (86.5%), tilting the child's head (69.2%), not putting anything into the child's mouth (75.0%), not measuring the child's body temperature (84.6%), not recording the duration of the seizure (92.3%), removing sharp objects (71.2%), not administering rectal diazepam (82.7%), and

No.	Writer	Title (year)	Method	Istrument	Results
					taking the child to a doctor or health center (100.0%). The results of this study recommend that healthcare professionals, especially nurses, can enhance health promotion regarding the initial management of febrile seizures by providing health education or distributing leaflets.
4	Evis Ritawati Hasibuan & Maizatuz Zahroh	The Relationship Between Maternal Knowledge and First Aid Management in Toddlers with Febrile Seizures (2018)	Cross sectional	Questionnaire & Observation (check list sheet)	The research results indicate a chi-square value of $p=0.028$ , and since $P\text{-value} < 0.05$ , $H_0$ is rejected, meaning that there is a relationship between maternal knowledge and the first aid management in toddlers with febrile seizures.
5	Sulastri Permata Sari Lubis	Overview of Mothers' Knowledge about Febrile Seizure Care in Children in the Pediatric Ward of H. Adam Malik General Hospital, Medan, in 2019 (2020)	Cross sectional	Questionnaire	The level of good knowledge was observed in 6 individuals (18.8%), while sufficient knowledge was found in 19 individuals (59.4%), and inadequate knowledge in 7 individuals (21.9%). Based on the results of this study, it is hoped that mothers can further enhance their knowledge about the care of febrile seizures in children.
6	Untung Tarunaji & Fithriyani	The Relationship Between Mother's Knowledge,	Cross sectional	Questionnaire	There is a relationship between knowledge and the behavior of preventing recurrent

No.	Writer	Title (year)	Method	Istrument	Results
		Attitude, and Motivation with Preventive Behavior for Recurrent Febrile Seizures in Toddlers Aged 1-5 Years at Raden Mattaher Hospital, Jambi (2018)			febrile seizures (p-value 0.000), there is a relationship between attitude and the behavior of preventing recurrent febrile seizures (p-value 0.028), and there is no relationship between motivation and the behavior of preventing recurrent febrile seizures in toddlers aged 1-5 years in the pediatric ward of Raden Mattaher Hospital, Jambi, in 2017, with a (p-value of 0.400). For Raden Mataher Hospital in Jambi, it is essential not only to provide treatment but also to conduct health education for families about preventing recurrent febrile seizures in the pediatric inpatient ward.
7	Dindi Paizer & Lindesi Yanti	Mother's Knowledge and Actions Regarding the Management of Febrile Seizures in Children (2022)	Descriptive quantitative (cross sectional)	Questionnaire	Most of the respondents have sufficient knowledge (83.3%), and the respondents' actions are categorized as sufficient (84.2%). The conclusion of this study is that the level of knowledge and actions of mothers regarding the management of febrile seizures is sufficient.

The discussion regarding the above-mentioned articles is as follows.

#### **Maternal Knowledge Level and Management of Febrile Seizures in Children**

The majority of the reviewed studies concluded that, overall, maternal knowledge regarding the management of febrile seizures in children is generally lacking (Hasibuan & Zahroh, 2018; Tarunaji & Fithriyani, 2018; Lubis, 2020; Resti, Indriati & Arneliawati, 2020; Sala, Lestari & Rokhmiati, 2022). Only one article (Paizer & Yanti, 2022) concluded that mothers already have sufficient knowledge to handle febrile seizures in children. Nevertheless, it can be generally inferred that the

knowledge possessed by mothers is still inadequate, emphasizing the importance of educating parents, especially mothers, to enhance this knowledge. Sufficient knowledge plays a role in determining a mother's ability to manage febrile seizures in children (Sala, Lestari & Rokhmiati, 2022). Some of the reviewed studies also attempted to explore the correlation between maternal anxiety and the ability to handle febrile seizures in children, but the results were inconclusive.

#### **The Influence of Education on Mother's Knowledge**

In line with the above findings, educating mothers has proven to be effective in improving their knowledge in managing febrile seizures in children (Puspitasari, Nurhaeni & Allenidekania, 2020). Therefore, all relevant parties are important in providing education regarding the management of febrile seizures. In addition, mothers should also actively and independently enhance their knowledge.

#### **4. CONCLUSION**

This study indicates several important findings. Firstly, that the knowledge mothers possess in managing febrile seizures in children is still categorized as low, and therefore, it is crucial to enhance maternal knowledge, either through education or independently by the mothers themselves. Secondly, there is a strong correlation between the level of maternal knowledge and their ability to manage children experiencing febrile seizures. The reviewed studies found that the level of competence mothers possess significantly determines their ability to handle febrile seizures in their children.

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