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Initial Handling by Midwives for Febrile Seizures in Children in the Working Area of Barus Jahe Health Center, Barus Jahe District Karo Regency, North Sumatra Province in 2023

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Abstract *. Febrile seizures are a common neurological condition occurring in children aged 6 months to 5 years, with an incidence rate of 2-5%. Prompt and appropriate management is crucial to prevent long-term developmental impacts. This study aims to analyze the relationship between the classification of febrile seizures and child development in the working area of the Barus Jahe Health Center, Barus Jahe District, Karo Regency, North Sumatra Province, in 2023. The research used an observational method with a qualitative descriptive design, collecting data through interviews and physical measurements from 10 children who experienced seizures. The results showed that 70% of the children who experienced seizures were older than 1 year, while 30% were under 1 year old. In terms of gender, 60% of the children were male and 40% were female. Regarding seizure classification, 70% of the children had simple seizures, and 30% had complex seizures. Concerning child development, 60% showed normal development, 20% showed questionable development, and 20% required further monitoring. This study highlights the importance of appropriate management to prevent developmental issues resulting from febrile seizures.*

Keywords *: Barus Jahe Health Center, Child Development, Febrile Seizures, Seizure Classification.*

1. BACKGROUND

Febrile seizures are one of the health problems that are often found in children, especially those aged 6 months to 5 years. Based on data from the World Health Organization (WHO), a study involving 400 children with a history of seizures showed that most children suffered from febrile seizures, with a figure reaching 77%. In Indonesia, Pangesti (2020) reported that in 2012-2013, the incidence of febrile seizures in children aged 6 months to 5 years was in the range of 3-4%. Febrile seizures are the most common neurological disorder and require fast and appropriate treatment to reduce the risk of developmental disorders in children that can arise.

The Sustainable Development Goals (SDGs) related to health, such as ending infant and under-five mortality, reducing neonatal mortality, and reducing premature mortality by 2030, are the main focus of various child health programs, including those promoted by the Indonesian Pediatrician Association (IDAI). One program that supports the achievement of these goals is the first day of life serbidity, which is known as the golden period for child growth and development. Disorders that occur during this period, such as febrile seizures, can have long-term impacts and affect the child's quality of life in the future.

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Febrile seizures occur due to an increase in body temperature exceeding 38°C in children aged 6 months to 5 years and are not caused by intracranial processes. These seizures are often a sign of neurological disorders that can affect a child's development, especially during critical periods such as those in the concept of motor and cognitive development. One of the important structures in brain development is the Corpus Callosum (CC), a nerve fiber that connects the two hemispheres of the brain and plays a major role in the transfer of sensory, visual, auditory, language, emotional, behavioral, and memory information (Zizlavvsky, 2019). Disturbances in brain function due to febrile seizures can disrupt these processes and potentially affect the quality of a child's development.

Child development itself is influenced by the interaction between genetic and environmental factors. Genetic factors include inheritance from parents, while environmental factors include various biological, physical, social, and psychological conditions that can support or inhibit the child's growth and development process. In this context, disorders such as febrile seizures can disrupt the balance between these factors, which then affects the development of fine and gross motor skills, language skills, and social aspects of the child.

In addition, data from Dr. Tjitrowardojo Regional Hospital in 2016-2017 showed an increase in the incidence of febrile seizures in children aged 1-5 years, from 162 cases to 172 cases. Febrile seizures are influenced by various factors, including the child's age, and are almost never found in children under 6 months or after 6 years of age (Hull, 2008). An increase in body temperature can affect the body's metabolism, which can ultimately cause seizures due to ion imbalance in neuron cells (Okti S, 2008).

Based on a preliminary survey conducted in the Barus Jahe Health Center Working Area, Barus Jahe District, Karo Regency, North Sumatra Province in 2023, it was found that 10 children who experienced febrile seizures also experienced social development disorders, such as difficulty interacting with peers and difficulty communicating. This shows that febrile seizures not only affect the physical aspects of children, but can also have an impact on their social and emotional development.

Given this background, researchers are interested in analyzing the relationship between seizure classification and child development in the Barus Jahe Health Center Working Area, Barus Jahe District, Karo Regency, North Sumatra Province in 2023. This study is expected to provide a significant contribution to understanding the impact of febrile seizures on child development and as a basis for improving efforts to prevent and treat febrile seizures in the community.

2. THEORETICAL STUDY

Child development is a very complex process that involves various aspects, ranging from physical, cognitive, language, to social-emotional. Child development theory is often used as a reference to understand how children grow and develop according to their age stage.

Child Cognitive Development

Children's cognitive development involves the ability to process information, commonly referred to as thinking skills. According to Dodge, Colker, and Heroman (2002), this cognitive development includes memory skills, problem solving, thinking processes, and reasoning, which overall affect how children learn and interact with the world around them. This process is also influenced by the experiences that children have. Regulation of the Minister of National Education of the Republic of Indonesia No. 58 of 2009 identifies the scope of cognitive development that is important to pay attention to at an early age, starting from recognizing size and numbers, general knowledge, to basic concepts in mathematics and science.

For example, children aged 0-2 years begin to recognize what they want and show reactions to stimuli, while at the age of 4-6 years children have begun to understand the concept of shape, color, size, and number (Regulation of the Minister of National Education, 2009). Play activities designed for children, both inside and outside the classroom, serve to stimulate their cognitive development. By providing educational play tools and supporting media, such as puzzles, simple science experiments, and maze games, children can train their critical and creative thinking skills.

Child Language Development

Language plays an important role in human life as a means of communication that allows individuals to interact with others. Language development in children begins with the mother tongue, which is used to communicate with the closest people around them. However, a second language is also important in expanding children's communication skills in a wider environment. In the Regulation of the Minister of National Education No. 58 of 2009, children's language development is divided into stages according to the child's age. At the age of 0-12 months, children begin to make sounds to express desires or as a reaction to stimuli. At the age of 2-4 years, children are able to receive and express language more clearly, while at the age of 4-6 years, they have begun literacy.

The importance of early language development reminds us of the role of parents in supporting language stimulation through daily conversation and interaction with children. The

mother tongue is the foundation that will allow children to develop broader communication skills, including a second or foreign language.

Children's Physical and Motor Development

The physical motor development of children is also an inseparable part of the child's growth and development process. There are two types of motor movements that must be stimulated early on, namely gross motor movements (locomotor) and fine motor movements. Gross motor movements involve large body activities, such as walking, running, and going up and down stairs, which train body strength and coordination. Meanwhile, fine motor movements involve finger and hand skills, such as playing with plasticine or assembling puzzles, which are important for eye-hand coordination skills.

Regulation of the Minister of National Education of the Republic of Indonesia No. 58 of 2009 also regulates the development of gross and fine motor skills in children, with an age range of 0-6 years which is a critical period in motor development. In addition, this physical development is closely related to children's health, which must be maintained by doing physical activities regularly.

Children's Creativity

Creativity is the ability of individuals to actualize themselves through behavior, motivation, processes, and results of work that can improve their quality of life (Khaironi, 2018). Creativity in early childhood can be trained through various activities that stimulate imagination and creative thinking skills. This can be done through play activities that involve the use of creative tools and exploration, which allow children to develop new ideas and imagine. Creativity is also closely related to children's cognitive development, which shows how children learn and understand the world around them through imagination and creation.

Early Detection of Child Development

Monitoring and early detection of child development is very important to know whether the child is developing according to his/her age. One method used in early detection is the Pre-Screening Development Questionnaire (KPSP), which helps identify whether there are deviations in the child's development. KPSP can be used to check the development of children at various ages, with examinations carried out by parents, health workers, or teachers at school. This tool measures the child's physical, motor, language, and social development, and provides recommendations for intervention if problems are found in development.

Classification of Seizures and Child Development

Seizures in children can have a negative impact on a child's physical and cognitive development. Previous studies have shown that seizures, especially if they occur repeatedly,

can affect a child's neurological development, which in turn affects their language, motor, and cognitive development. Therefore, it is important to understand how seizures, both epileptic and non-epileptic, can affect a child's developmental stages, and how proper treatment can help minimize their negative impacts.

3. RESEARCH METHODS

This study used a descriptive observational research design with a quantitative approach. The study was conducted using a sample consisting of children who experienced seizures in the Barus Jahe Health Center Working Area, Barus Jahe District, Karo Regency, North Sumatra Province, totaling 10 people.

Data collection techniques were conducted through interviews, direct observation, and measurement of body temperature and child development using instruments that had been adjusted to relevant standards. The data analysis tool used was descriptive analysis to describe the variables studied, with presentation in the form of frequency tables and interpretation of data collection results.

4. RESULTS AND DISCUSSION

Results

Midwives' Knowledge Regarding Handling Fever in Children Aged 3-6 Years at the Barusjahe Health Center, Barusjahe District, Karo Regency, which was carried out in June 2022 with 30 respondents, including the distribution of frequency respondents based on midwives' knowledge are as follows

Table 1. Distribution of Respondents Based on Knowledge

No	Pengetahuan	Frekuensi	Persentase %
1 Baik		5	16.7 %
2	Cukup	17	56.7 %
3	Kurang	8	26.7 %
Total		30	100

Based on the table above, it can be seen that the majority of respondents who are knowledgeable in the sufficient category regarding handling fever in children are 17 respondents (56.7%).

Table 2. Cross Tabulation of Respondents' Distribution Based on Knowledge and Education

Education	Knowledge							
	Good		Enough		Not enough			
	n	%	n	%	n	%	n	%
Didn't Finish Elementary School	0	0.0	2	6.7	0	0.0	2	6.7
SD	1	3.3	0	0.0	2	6.7	3	10.0
JUNIOR HIGH SCHOOL	0	0.0	4	13.3	0	0.0	4	13.3
SENIOR HIGH SCHOOL	3	10.0	9	30.0	4	13.3	16	53.3
College	1	3.3	2	6.7	2	6.7	5	16.7
Total	5	16.7	17	56.7	8	26.7	30	100

Based on the table above, it can be seen that the majority of educated respondents have sufficient knowledge, namely 9 respondents (30.0%).

Discussion

1. Respondents' Knowledge Regarding Fever in Children Aged 3-6 Years

Knowledge is the result of knowing, and knowledge occurs after people sense a particular object. Sensing occurs through the five human senses, namely the senses of sight, hearing, smell, taste and touch by themselves. Most human knowledge is obtained through the eyes and ears. Knowledge covered in the cognitive domain has 6 levels (Notoatmojo, 2014).

From table 2 , the knowledge of midwives regarding the handling of fever in children aged 3-6 years is mostly in the sufficient category, as many as 17 respondents (56.7%), and respondents who have knowledge in the good category are 5 respondents (16.7%), and respondents who have knowledge in the poor category are 8 respondents (26.7%).

The results of this study are in line with the results of Epianus Gulo's study (2013) conducted on children in Fadoro Village, Mandrehe District, West Nias Regency, where the majority of respondents had sufficient knowledge, as many as 27 people (46.6%). This is due to the sufficient knowledge of midwives about handling fever in children aged 3-6 years.

The results of this study are supported by previous research by Oliver (2018) at Reksodiwiryo Padang Hospital which showed that 65% of respondents had good knowledge while 35% had poor knowledge, so it can be concluded that the higher the midwife's knowledge about handling fever in children aged 3-6 years, the lower the incidence of fever in children aged 3-6 years.

According to the researcher's assumption, it shows that good knowledge has a big role in being good at handling fever in children. Thus, the research opinion and the results obtained are in line with the theory and research results of Evis & Maizatuz (2018), midwives who have good knowledge will know and understand better how to properly provide first aid in treating and preventing fever in children.

2. Knowledge Based on Education

The higher a person's level of education, the more knowledge they have. Conversely, the lower the education, the more it will hinder the development of a person's attitude towards newly introduced values. (Nursalam, 2012).

From table 2, the knowledge of midwives about fever in children aged 3-6 years is mostly in the sufficient category, namely respondents with high school education, namely 9 respondents (30.0%), and respondents with knowledge in the good category, namely respondents with high school education, namely 3 respondents (10.0%).

This is in line with the results of a study conducted by Connie Melva Sianipar (2019). The majority of respondents who were educated with sufficient knowledge about handling fever in children aged 3-6 years, namely, College (71.42%), Junior High School (62.50%), midwives with high school education (50.00%), had good knowledge about handling fever in children aged 3-6 years.

The results of this study are supported by previous research by Notoatmojo (2014) Education provides certain values for humans, especially in opening the mind and accepting new things and also how to think scientifically, in other words, people who are highly educated will be easier to accept and digest new ideas or concepts. The higher a person's education, the more positive behavior they can do.

According to the researcher's assumption, increasing education has an impact on broader experience and insight and the ability to make good decisions, especially those related to health. A person with a high school education or equivalent is able to process the information obtained and consider what is good for him/herself, including maintaining his/her health (Widyastuti, et al., 2019).

5. CONCLUSION AND SUGGESTIONS

Conclusion

Research on midwives' knowledge about handling fever in children aged 3-6 years at Barusjahe Health Center, Barusjahe District, Karo Regency showed that the majority of respondents had sufficient knowledge about handling fever in children. Most of them had sufficient knowledge based on their level of education and experience. This shows that midwives' knowledge about handling fever in children is quite good, but there is still room for improvement, especially related to more intensive health education. Although the results of this study provide a positive picture, there are several limitations, such as the limited number

of respondents and the focus on only one research location, which need to be considered when generalizing the findings.

Suggestion

Based on the results of this study, it is recommended that the leadership of Barusjahe Health Center provide more frequent health education to mothers regarding the management of fever in children aged 3-6 years. This will improve mothers' understanding in caring for their children at home. In addition, for educational institutions, it is important to include material on the management of fever in early childhood in the curriculum for students, especially in the field of midwifery, so that midwives' knowledge can continue to develop. For further researchers, it is recommended to involve a larger number of respondents and more diverse locations so that the research results are more representative and can be better generalized.

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