



The Effect of Education Using Demonstration Methods on Parents' Knowledge of First Aid for Febrile Seizures

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Abstract

Febrile seizures are a common emergency in children, occurring when body temperature rises above 38°C due to an extracranial process. These seizures typically affect children aged 3 months to 5 years and are related to fever but occur without signs of intracranial infection or other seizure-inducing causes. To analyze the effect of education using the demonstration method on parents' efforts in first aid for febrile seizures. This study employs a pre-experimental design with a one-group pretest-posttest approach. The population consists of parents with children aged 3 months to 5 years, with a sample size of 44 participants. A questionnaire was used as the research instrument, and data analysis was performed using the Wilcoxon test. Prior to education using the demonstration method, most parents had an adequate level of knowledge. After education, 90.9% of parents were classified in the good knowledge category. There was a significant difference between pre- and post-education knowledge levels, with a Wilcoxon test result showing a significance level of 0.000 ($p < 0.05$). Thus, it can be concluded that education using the demonstration method positively influences parents' knowledge regarding first aid for febrile seizures.

Keywords: Education, Parental Knowledge, Febrile Seizures

INTRODUCTION

Currently, one of the most common emergency cases in children is febrile seizures. Febrile seizures are convulsions that occur during a rise in body temperature (rectal temperature above 38°C) caused by extracranial processes. They can also be defined as seizures occurring in children aged between 3 months and 5 years, related to fever, but without any signs of intracranial infection or other underlying causes (Indrayati & Haryanti, 2020). Febrile convulsions are one of the common conditions experienced by children, especially those under the age of five (toddlers). Approximately 20% of children worldwide are brought to the emergency room due to fever and febrile convulsions, with 4-10% of toddlers needing hospitalization for these convulsions.

According to data from the Indonesian Medical Association, febrile convulsions occurred in approximately 2.5% of toddlers in 2017. They are

caused by high body temperature in children and generally occur within 12 hours after the onset of fever, characterized by decreased consciousness, clenched teeth, rolling eyes, foaming at the mouth, and other symptoms. In more severe cases, they may be accompanied by symptoms of epilepsy or even lead to death (Siregar & Pasaribu, 2022).

Children's growth and development are influenced by internal factors in the mother. As a result, children are more susceptible to infections, which often cause high fever. Fever is a common condition encountered daily, especially in children whose bodies are still vulnerable to diseases (Pebrisundari, 2019). According to the World Health Organization (WHO), it is estimated that more than 21.65 million people suffer from febrile seizures, and over 216,000 of them have died. In Kuwait, among 400 children aged 1 month to 13 years with a history of seizures, approximately 77% experienced febrile seizures (Nopiyanti, 2023). In the United States and Europe, the prevalence of febrile seizures ranges from 2% to 5%. In Asia, the prevalence of febrile seizures is twice as high compared to Europe and America. The incidence of febrile seizures in Japan ranges from 8.3% to 9.9%. In Hong Kong, the incidence is 0.35%, while in China, it reaches 0.5% to 1.5%. Even in Guam, the incidence of febrile seizures reaches 14% (Maghfirah & Namira, 2022). The United Nations International Children's Emergency Fund (UNICEF) estimates that approximately 12 million children die every year due to febrile seizures (Anisa et al., 2022).

The incidence of febrile seizures in Indonesia in 2016 reached 2-5%, with 85% of cases caused by respiratory tract infections. In 2017, 17.4% of children experienced febrile seizures, which increased to an incidence of 22.2% in 2018. In West Java province, the number of febrile seizures recorded in hospitals is 2,220 for children aged 0-1 year and 5,696 for those aged 1-4 years (Aprilia & Kusnantoro, 2022). According to the 2019 report from the Indonesian Ministry of Health, the incidence of febrile seizures in Indonesia was recorded at 14,252 cases (October 2023). Data from the Pekauman Health Center indicated that there were 234 children with febrile seizures from January to September (Roly, 2017, in Lubis, 2020). In South Kalimantan Province, 541 cases of febrile seizures were recorded in 2019, and in 2020, there were 639 cases (South Kalimantan Provincial Health Profile, 2021).

The impact of febrile seizures is very important to monitor, as seizures lasting more than 15 minutes (known as complex febrile seizures) can lead to neuronal damage in the brain. This has the potential to cause epilepsy, paralysis, or even intellectual disabilities. Behavioral disorders and decreased intelligence levels in children can result from febrile seizures. Neuronal damage increases in KDK patients who do not receive appropriate treatment. Additionally, febrile seizures can lead to recurrence (Sintyawati et al., 2023).

Home treatment of febrile seizures is very important for parents to understand before taking their child to the hospital for further assistance. Improper initial treatment at home can actually lead to a deterioration of the child's condition. For this reason, parents, as the closest individuals to

their children, need to be knowledgeable about handling emergencies related to febrile seizures that occur at home. Misconceptions among parents regarding the management of febrile seizures can contribute to a decline in the quality of life for families or children experiencing these seizures (Ekawaty et al., 2023).

As a mother or parent, your role is crucial in providing first aid to children experiencing febrile seizures at home (Utami & Rizqie, 2021). Knowledge is essential for parents with children under five, as a lack of understanding can negatively impact their ability to provide appropriate first aid during febrile seizures, which can endanger the child (Widyastuti & Rejeki, 2023). Efforts to enhance readiness for handling emergencies can be achieved through health education, which aims to create a psychological environment that encourages the adoption of health guidelines in daily behavior. Education employs various methods, one of which is the demonstration method. This method effectively imparts knowledge about first aid for febrile seizures, enabling mothers to assist victims properly at home (Cing et al., 2022).

Based on a preliminary study conducted by researchers on March 7, 2024, at the Pekauman Health Center, the results of interviews with 10 mothers revealed that 7 mothers were unaware of febrile seizures, including their causes and how to manage them at home. Meanwhile, 3 mothers understood how to handle febrile seizures but had never received education on first aid for them. Parents often believe that when a child has a seizure, they should put water in the child's mouth. However, during a seizure, it is important not to place anything in the child's mouth.

Broadly speaking, parental knowledge regarding the management of febrile seizures remains significantly low. Consequently, researchers are interested in examining the impact of education through the demonstration method on parents' understanding of first aid for febrile seizures.

METHODS

This study employs a quantitative research design, specifically experimental research. The independent variable examined is education through the demonstration method, while the dependent variable is parents' knowledge of first aid for febrile seizures. The population examined in this study consists of 80 parents with children under the age of five in the working area of the Pekauman Health Center. The sample size for this study is 44, rounded from 44.44. The sampling technique employed in this study is probability sampling, specifically simple random sampling. This method involves selecting samples from the population randomly, without regard to any underlying strata within the population. The purpose of this study is to assess the influence of education through demonstration methods on parents' knowledge regarding first aid for febrile seizures.

RESULTS AND DISCUSSION

Analysis of the Effects of the Demonstration Method on Parental

Knowledge Regarding First Aid for Febrile Seizures

Table 1: Level of Knowledge Regarding Parents' Efforts Before and After the Demonstration Method

Ability	Pre		Post	
	n	%	n	%
Good	6	13,6	40	90,9
Fair	28	63,6	4	9,1
Poor	10	22,7	0	0
Total	44	100	44	100
Asymp. Sig. (2-tailed)				
0,000				

Based on the results of the normality test, the data was found to be not normally distributed; therefore, non-parametric tests were used for data analysis.

Using the Wilcoxon statistical test, this study shows that the Wilcoxon test results yielded a p-value of 0.000, which is statistically significant ($p < 0.05$). This indicates a significant effect between the knowledge of parents regarding first aid for febrile seizures before and after the education provided through the demonstration method.

Table 2: Knowledge Regarding Parents' Efforts with Demonstration Method

Level of Knowledge Regarding Parents' Efforts	P-Value
Pretest-Posttest	0.000

Knowledge of Parents' Efforts Before Receiving Demonstration Methods in First Aid for Febrile Seizures

The results of the study describe the level of knowledge respondents had before receiving education through the demonstration method. The pre-test results indicate that most respondents, 28 individuals (63.6%), had adequate knowledge in providing first aid for febrile seizures. This research aligns with the study conducted by Zakiyah et al. (2020), which found that the majority of respondents were at a low knowledge level prior to receiving education.

A study by Farokah et al. (2022) found that age, education, mass media, environment, and culture influence knowledge. Middle-aged adults demonstrated good knowledge (25.0%), while young adults showed adequate knowledge (68.8%).

The age factor affects a person's understanding and thought processes. As individuals get older, their mindset and comprehension develop, leading to an increase in acquired knowledge (Nisa Rizkiatul & Nugraheni Triana Wahyu, 2023).

Based on this statement, the researcher assumes that as a person ages, their knowledge has a greater influence. This is because older individuals tend to have more mature thinking and are more receptive to information, leading to an overall improvement in their level of knowledge.

Based on the results of the study, nearly half of the respondents had completed elementary school (18 people, or 40.9%), followed by junior high school/MTs (10 people, or 22.7%), high school/MA (12 people, or 27.3%), Diploma Three (D3) (1 person, or 2.3%), and Strata 1 (S1) (3 people, or 6.8%). Education is essential for developing knowledge and understanding. It influences the learning process, making it easier for more educated individuals to receive information. Conversely, those with lower education levels may struggle to develop their attitudes toward values or information. This aligns with Souhuwat's research (2022), which states that individuals with higher education tend to possess broader knowledge.

Based on the above statement, the researcher assumes that education can significantly impact a person's knowledge. The higher the level of education, the easier it is to understand information, which in turn enhances knowledge. According to the study results, most mothers were housewives, with 28 individuals (65.1%) demonstrating sufficient knowledge, while 9 individuals (20.9%) had a lower level of knowledge. Additionally, only 1 mother (1.0%) worked as an entrepreneur and exhibited a lower level of knowledge.

The work environment can enable a person to gain experience and knowledge both directly and indirectly (Pariati & Jumriani, 2021). This finding aligns with research by Darsini et al. (2019), which also states that the work environment facilitates knowledge acquisition. The tasks performed by individuals often provide broader opportunities to gain knowledge. Based on this, the author assumes that work can influence a person's knowledge, as the work environment fosters interactions that lead to information exchange, thereby enhancing experience and expanding knowledge.

Based on Table 4.5, there are still parents with a lack of knowledge, specifically 10 individuals (22.7%). One factor that can affect knowledge is the information obtained, which can help increase a person's understanding. According to Table 4.4, most respondents have never received education using the demonstration method for first aid in febrile seizures. Before education, parents most frequently answered questions about first aid for febrile seizures incorrectly.

Based on the explanation above, it can be concluded that knowledge is influenced by several factors, including age, education, and work. One way to increase or acquire knowledge is through education; however, most respondents have never received training on handling febrile seizures. As a result, many parents possess only a moderate level of knowledge in providing first aid for febrile seizures.

Knowledge of Parents' Efforts After Receiving Demonstration Methods in First Aid for Febrile Seizures

Based on the results of the study, the distribution of respondents' knowledge after the demonstration method indicated that 40 individuals (90.9%) had good knowledge, while 4 individuals (9.1%) had sufficient knowledge. Before the demonstration, many respondents had only sufficient knowledge; however, after the demonstration, a significant number achieved good knowledge. The post-test results showed that most parents were able to answer questions correctly regarding first aid for febrile seizures.

This research aligns with the study conducted by Astika et al. (2022), which stated that knowledge levels increased after receiving health education about febrile seizures. Health education plays a crucial role in enhancing public knowledge and awareness.

Based on the above statement, the researcher assumes that the changes in respondents' knowledge may be attributed to health education. The demonstration method of health education facilitates the delivery of information in an easily understandable manner. This method presents a situation by showing a process and practicing an event as if it were happening in real life, making it easier for respondents to comprehend.

Based on the results of the study, it was found that after receiving education through the demonstration method, there were still 4 individuals (9.1%) with a sufficient level of knowledge. Another factor affecting the lack of knowledge is motivation and interest. According to Laka et al. (2020), motivation is defined as a movement or urge that influences an individual's attitude to be active. Nur Hidayah et al. (2023) describe interest as a strong tendency or passion for something. Based on this explanation, the researcher assumes that the sufficient knowledge of these 4 respondents is influenced by their interest and motivation. After education with the demonstration method, parents most frequently answered questions about first aid for febrile seizures incorrectly.

Based on the explanation above, the researcher concludes that education, particularly health education using the demonstration method, is well received in the community. Parents can easily understand what is being taught because this method involves practical applications in real life, thereby enhancing the knowledge they possess.

According to Yuliantho (2023), education is a learning process that aims to educate, provide knowledge, and develop the potential of each individual, thereby enhancing the learning experience. Meanwhile, the KBBI defines education as the process of changing the attitudes and behaviors of a person or group to mature through teaching, training, and various educational methods.

Based on the results of the statistical test conducted in this study before and after the provision of education using the demonstration method, the Wilcoxon test indicated a significance level of $p = 0.000$ (where $p < 0.05$). This allows us to conclude that education through the demonstration method has a significant impact on the level of parental knowledge regarding first aid for febrile seizures.

This is evident from the study results, which show that the number of respondents with knowledge in the good category increased from 6 individuals (13.6%) to 40 individuals (90.9%). Meanwhile, the number of respondents in the sufficient knowledge category decreased from 28 individuals (63.6%) to 4 individuals (9.1%). Additionally, respondents categorized as lacking knowledge, previously numbering 10 individuals (22.7%), were no longer present after receiving education through the demonstration method.

The demonstration method is a learning approach that involves illustrating an event using tools and media to facilitate the reception of information from the speaker. This method helps participants focus their attention, allowing them to gain a clear understanding of the results of their observations. Additionally, questions that arise can be addressed by observing the demonstration process (Melli Ernia, 2019).

This research aligns with the study conducted by Nadia et al. (2021), which found an increase in knowledge before and after the demonstration method. The demonstration

method is a teaching approach that involves illustrating objects, events, rules, and sequences of activities, either directly or through relevant teaching media related to the subject matter being presented.

The researcher assumes that the increase in knowledge following education is due to the use of demonstration and lecture methods, which enhance respondents' understanding. Additionally, conducting question-and-answer sessions helps reinforce understanding and improve information retention.

CONCLUSION

Before education using the demonstration method, knowledge about parents' efforts was predominantly in the moderate category, with 28 individuals (63.6%). After education, knowledge improved significantly, with 40 individuals (90.9%) falling into the good category. There was a significant effect of education through demonstration methods on parents' knowledge regarding first aid for febrile seizures, indicated by a p-value of 0.000 ($p < 0.05$).

The demonstration method is very important in increasing parents' knowledge about first aid in children with febrile seizures because visual understanding parents can see firsthand the correct way to perform first aid, which is easier to understand than just reading instructions, hands-on practice, with this method, parents can practice hands-on, allowing them to be better prepared if an actual situation arises, strengthens memory: Demonstrations help remember procedures longer than just listening or reading.

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