

# Educational Intervention on First Aid Management for Children with Epilepsy and Its Impact on Teachers' Knowledge

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## Abstract

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**Background:** Epilepsy is a neurological disorder that affects the brain, leading to recurrent seizures in one or more parts of the body. Awareness about epilepsy and its proper management is limited among the general public.

**Objective:** This study aimed to assess the impact of educational interventions on teachers' knowledge of first aid management for children with epilepsy.

**Methods:** This quantitative study utilized a Quasi-Experimental design, specifically a one-group pre-test and post-test design. The study sample consisted of 10 teachers, selected through total sampling.

**Results:** The findings indicated that the educational intervention on first aid management for children with epilepsy resulted in a statistically significant increase in teachers' knowledge levels at MIM Tanabangka, as evidenced by a p-value of 0.000.

**Conclusion:** Prior to the educational intervention, teachers' knowledge regarding first aid management of children with epilepsy was moderate. Following the intervention, a significant improvement in knowledge was observed.

**Keywords:** Children; epilepsy; first aid management; seizures

## Introduction

Epilepsy is a condition of the nerves in the brain, which can cause repeated seizures in one or more sufferers (Agustin & Eviyanti, 2023). Many children experience epilepsy, but the public still lacks of knowledge about epilepsy in children (IDAI, 2016). The severity of seizures in epilepsy varies and depends on where in the brain the disorder first begins, and how far it spreads. Loss of consciousness or alertness, as well as abnormalities in movement, emotions, sensations, and other cognitive functions, are some of the symptoms. People with epilepsy often face a variety of medical problems, including broken bones and trauma from seizures. Greater severity of mental illness (depression and anxiety). Likewise, people with epilepsy are three times more likely than the overall population to die young (WHO, 2024). Therefore, epilepsy needs to be identified early and treated properly so that those who suffer from it can live a normal life

The challenges faced by children with epilepsy are not limited to their condition. Still, they can also be influenced by psychological factors such as the child's self-esteem, the expectations of parents, teachers, and peers, as well as the negative characteristics they receive (Alkhotani, 2022). It is often more difficult to overcome the stigma and discrimination surrounding epilepsy in society than the symptoms of seizures. Prejudice may be directed towards individuals with epilepsy and their relatives (WHO, 2024). Stigmatization of epilepsy can be reduced by increasing social awareness, attitudes, and knowledge about epilepsy.

Teachers in handling cases of epilepsy in schools are still relatively low in handling practices, efforts are needed to improve the knowledge and handling of teachers in schools regarding epilepsy in children (Onigbogi, 2019). In the research by Abulhamail et al. (2014) stated that there is a need to improve teacher education about epilepsy. If teachers have extensive knowledge in identifying or recognizing what is happening to their students, it will be easier for them to understand the appropriate actions for their students who need special treatment (Anggriana & Trisnani, 2016).

A preliminary survey conducted in January 2024 among teachers at Madrasah Ibtidaiyah Muhammadiyah Tanabangka said that they had never received information regarding how to provide first aid to children who experience epileptic seizures, whereas this needs to be known so that children who experience epileptic seizures receive appropriate treatment. With the description above, we are interested

in researching "Education for the First Treatment of Children with Epilepsy on the Level of Teacher Knowledge at Madrasah Ibtidaiyah Muhammadiyah (MIM) Tanabangka".

## Methods

### Study Design

This research was a quasi-experimental methodology with a one-group pre and posttest design, to determine the level of teacher knowledge before and after being given education on the initial treatment of children with epilepsy.

### Samples/Participants

The sampling technique used in this research was total sampling, so the sample size in this research was 10 teachers at MIM Tanabangka. This research was conducted at Madrasah Ibtidaiyah Muhammadiyah Tanabangka.

### Instruments

The questionnaire used in this study was modified from the UC Berkeley Knowledge, attitudes, and practices towards epilepsy questionnaire. And its validity and reliability were tested. It consisted of 10 questions covering awareness about epilepsy, etiology, clinical manifestations, management, and treatment of epilepsy. Questionnaires were given before and after education was carried out, then data analysis was carried out.

### Interventions

The process of this activity begins with giving pre-test questions to find out the extent of their knowledge before receiving education related to treating seizures in children with epilepsy for 10 minutes with a total of 10 questions don't forget to fill in the attendance by the teacher as a participant in this educational activity. Providing material on handling seizures in children with epilepsy for 50 minutes including questions and answers and practiced by several teachers. After providing the material and demonstration, educational participants were given another post-test of 10 questions.

### Data Collection

Education regarding the first treatment of seizures in children was held on Monday 22 January 2024 in the MIM Tanabangka meeting room. Data collection was carried out by researchers assisted by research assistants. Researchers provided education regarding the management of seizures in children with epilepsy and collected research questionnaires, while research assistants helped collect questionnaires, both pre-post and post-test.

### Data Analysis

The statistical test used the paired t-test to determine the influence of education on the first treatment of children with epilepsy on the level of teacher knowledge before the research was conducted.

### Ethical Considerations

This research has obtained a research permit from the Institute for Research and Community Service (LPPM) STIKes Amanah Makassar with research permit number No: 003 /LPPM/ STIKes Amanah/01/2024. The researchers also gave informed consent to the respondents and all respondents in this study agreed to fill out the questionnaire and took part in this research.

## Results

Table 1 shows that most respondents were in the 46–50-year age category, which were 4 (40%) respondents and the fewest respondents were in the 31-40 year and 51-55 year age categories, 1 respondent each (10%). The gender of the respondents was mostly female, 8 respondents (80%).

Table 1. Characteristics of Respondents

Characteristics of respondents	f	%	
Age	26-30	2	20
	31-40	1	10
	41-45	2	20
	46-50	4	40
	51-55	1	10
	Total	10	100
Gender	Male	2	20

female	8	80
Total	10	100

Table 2 shows the correlation between the two pre-test and post-test data, namely that there was an increase in the mean value previously in the pre-test by (5.9) or (1.19722) standard deviations, after the post-test the mean value was (9.0) and the standard deviation value was (.94281).

Table 2. Correlation between pre-test and post-test

	Mean	SD
<b>Pre-test</b>	5.9	1.19722
<b>Post-test</b>	9.0	.94281

*\*paired samples statistic*

Table 3 shows that according to the Paired sample test the p-value was 0.000, which means that there was an influence of education on the first treatment of children with epilepsy on the level of knowledge of teachers.

Table 3. Education on the first treatment of children with epilepsy

	Mean	SD	p-value*
<b>Pre test</b>	-3.10000	1.19722	0.000

*\*paired samples test*

## Discussion

The results of research conducted on teacher respondents at MIM Tanabangka, from the results of educational research on the first treatment of children with epilepsy, the level of knowledge of respondents before the intervention showed an increase in the average level of knowledge of respondents after the intervention.

Nowadays teachers try to increase their knowledge through the Internet, but guideline-based management must be followed by providing first aid education in schools (Kanjo et al., 2021). Increasing teachers' knowledge and confidence in treating epilepsy patients at school requires education regarding first aid for epilepsy among teachers (Almarwani et al., 2023).

The results of the research on the effect of education on the first treatment of children with epilepsy on the level of knowledge of teachers at MIM Tanabangka, show that the average level of knowledge between before and after the intervention has an average difference of -3.1 and the result is a p-value = 0.000. The results of this research are that education on the first treatment of children with epilepsy is effective in increasing the level of teacher knowledge, where there is a significant increase.

Research related to epilepsy management education was also previously carried out by Romadoni et al. (Siti romadoni et al., 2023) regarding The Effect Of Educational Videos About Early Treatment Of Seizures In Children On The Level Of Knowledge Of Parents At Aisyiyah 11 Kindergarten, Palembang. The research results showed that after being given an educational video about the early treatment of seizures in children, there is an influence of educational videos on parents' knowledge in the initial treatment of seizures in children. In other words, health education aims to guarantee that individual action positively impacts the maintenance and enhancement of health. Health education is an endeavor to ensure that behavior on the part of a person, a group, or a community is favorable to health (Magdalena TBolon, 2021).

First aid education for children with epilepsy according to (IDAI, 2016), if someone experiences a seizure the first thing to do is stay calm, let the attack stop by itself, note the duration of the seizure, protect the sufferer from trauma (lay the sufferer on the floor, keep away dangerous objects, place something soft under the head), loosen everything around the neck (shirt collar, tie) and check the patient's identity, do not restrain the patient's movements, do not put anything in the patient's mouth, slowly tilt the patient when the seizure stops to drain spit and mouth fluids out and keep the airway clear, after the attack, talk to the sufferer, do not leave before his consciousness recovers. Sufferers may need sleep or rest.

Manifestations of epilepsy cause children's quality of life to be impacted, especially in term of relationship development, mental health, and academic progress at school (Massachusetts General Hospital, 2024). Teachers must be able to handle this disease and reduce its impact on students who suffer from this disease.

## Conclusion

Before receiving education, it showed that the teacher's knowledge about the first treatment for children with epilepsy was sufficient, after receiving education about the first treatment for children with epilepsy there was a good increase in knowledge. There is an influence of education on the first treatment of children with epilepsy on the level of knowledge of teachers at MIM Tanabangka.

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