

Level of Knowledge and Skills of Health Workers Regarding the Management of Feverish Seizures in Children at Haji General Hospital

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Background: Febrile seizures are an acute neurological disorder that commonly occurs in children aged 6 months to 5 years, and are one of the main reasons for visits to the emergency department. Although benign, inappropriate treatment can lead to complications, including the risk of recurrence and the development of epilepsy. Therefore, the competence of health workers in recognizing and managing febrile seizures is very important. **Objective:** To determine the relationship between the level of knowledge and skills of health workers in managing febrile seizures in children with age, gender, education, and length of service at RSU Haji Medan. **Methods:** This quantitative study with a descriptive analytical approach and cross-sectional design involved 75 health workers, including doctors, nurses, and midwives, who were selected through simple random sampling. Data were collected using a questionnaire and analyzed univariately and bivariately using the chi-square test ($\alpha = 0.05$). **Results:** A total of 54.7% of respondents had good knowledge and 50.7% had good skills. There was a significant relationship between age, education, and length of service with knowledge and skills ($p < 0.001$), but not with gender. Respondents aged ≥ 40 years, medical education, and having ≥ 10 years of service showed higher competence. **Conclusion:** The knowledge and skills of health workers are classified as good, but still need to be improved in groups with lower experience and education through routine training and continuous learning.

Keywords: febrile seizures, knowledge, skills, health workers, children.

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1. Introduction

Time Childhood is a crucial stage in the human life cycle, characterized by dynamic growth and development. This period experiences rapid changes in physical, neurological, cognitive, and emotional aspects, as well as the ability to adapt to the environment. Children, especially those in the infant and toddler age groups, still have developing organ systems and defense mechanisms, making them more susceptible to various health problems. This vulnerability makes infectious diseases a common problem in children. Infectious conditions in children can cause various clinical manifestations, one of which is an increase in body temperature or fever, which in certain conditions can be associated with febrile seizures (1).

Fever is the body's physiological response to various conditions, especially infections, characterized by an increase in body temperature as part of the body's defense mechanism. In children, fever is a very common complaint encountered in health services and is mostly related to viral or bacterial infections. Fever is not inherently a disease, but rather a clinical sign indicating a specific process within the body. Management of fever in children requires appropriate attention, taking into account the child's general condition, age, cause of the fever, adequate fluid intake, and the presence of warning signs. The Indonesian Pediatrician Association (IDAI) states that children experiencing fever accompanied by seizures require medical attention and examination to determine the cause and appropriate treatment (2).

One of the neurological complications that can occur in children with fever is febrile seizures. Febrile seizures are seizures that occur in children when their body temperature rises and are not caused by a central nervous system infection, certain metabolic disorders, or a history of afebrile seizures. This condition is most often found in children aged 6 months to 5 years and is one of the most common neurological disorders in that age group. Febrile seizures can appear suddenly, often causing panic and anxiety, both in parents and healthcare professionals who provide first aid to the child (3).

Epidemiologically, febrile seizures are a fairly common condition in the pediatric population. The American Academy of Pediatrics (AAP) states that febrile seizures occur in approximately 2–5% of children and are most common in the 6–60 month age group. Febrile seizures are generally divided into simple febrile seizures and complex febrile seizures. Simple febrile seizures are generally generalized, last less than 15 minutes, and do not recur within 24 hours, while complex febrile seizures can last longer, have focal characteristics, or recur within 24 hours. This distinction is important because seizure characteristics can determine the need for further evaluation and management (4).

In Indonesia, febrile seizures are also a childhood health problem that requires attention in health services. The Indonesian Association of Indonesian Pediatricians (IDAI) states that febrile seizures are one of the most common neurological disorders in children, occurring in approximately 2–5% of children aged 6 months to 5 years. Although most febrile seizures have a good prognosis, they still require appropriate treatment, especially while the child is still having a seizure. A systematic assessment of the child's condition should be carried out to determine the airway, breathing, circulation, duration of the seizure, seizure characteristics, and the possibility of other, more serious causes such as central nervous system infections (5).

Febrile seizures are generally brief and can resolve spontaneously. However, not all seizures accompanied by fever can be immediately categorized as simple febrile seizures. Healthcare professionals need to carefully assess the child's age, seizure duration, seizure pattern or location, frequency of occurrence, post-seizure neurological condition, and the child's and family's medical history. If signs suggestive of central nervous system infection, neurological disorders, or atypical seizure characteristics are found, further evaluation is necessary. Therefore, healthcare professionals' ability to recognize the characteristics of febrile seizures is crucial in providing safe and appropriate care to the patient's condition (6).

Management of febrile seizures requires a rapid, appropriate, and systematic response. When a child experiences a seizure, the primary priority for healthcare providers is to maintain the airway, ensure respiratory and circulatory function, prevent injury, and observe the duration and characteristics of the seizure. Further examination and intervention should be directed toward identifying the cause of the fever and assessing any underlying conditions requiring immediate treatment. The AAP guidelines emphasize that in children with simple febrile seizures who are neurologically healthy, ancillary tests such as electroencephalography, routine laboratory tests, or brain imaging should not be performed routinely solely to evaluate the seizure. These tests should be tailored to the clinical indication and the source of the fever (7).

Healthcare workers' knowledge of febrile seizure management is a crucial component in supporting the quality of care provided to pediatric patients. Adequate knowledge is necessary for healthcare workers to differentiate between simple and complex febrile seizures, recognize danger signs, prioritize actions, and provide interventions based on the child's clinical condition. In addition to theoretical knowledge, healthcare workers also need practical skills in conducting initial assessments and providing assistance during a seizure. Therefore, knowledge and skills are interrelated aspects of the proper management of febrile seizures (8).

The importance of healthcare worker competence is also supported by research on nursing staff's knowledge in managing seizures. A 2026 study of emergency department nurses found that their knowledge level regarding managing seizures was moderate, and showed a relationship between exposure to training and professional experience and the number of correct knowledge responses. These findings suggest that work experience and continuing education may be factors related to healthcare workers' ability to respond to seizures. Although this study did not specifically address febrile seizures in children, the results suggest that improving competency through education and training remains relevant in supporting healthcare workers' preparedness for clinically responding to seizures (9).

In addition to knowledge, the skills of healthcare workers in performing initial interventions also play a crucial role. Inappropriate treatment, delays in recognizing conditions requiring referral, or errors in administering interventions can increase the risk of patient problems. Conversely, healthcare workers with good understanding and skills can assess patients' conditions more systematically and determine actions based on clinical priorities. Therefore, evaluating healthcare workers' knowledge and skills is necessary to determine the extent to which their competencies meet service needs, particularly in dealing with pediatric patients with febrile seizures in a hospital setting (10).

Haji General Hospital, as a healthcare facility, plays a key role in providing services to pediatric patients, including those with emergencies such as febrile seizures. Retrospective data from medical records obtained by researchers indicate cases of febrile seizures in pediatric patients at Haji General Hospital in Medan, with the 6–24 month age group being the most common, and simple febrile seizures the most common form. These data indicate that febrile seizures are still encountered within the hospital, making the readiness of healthcare workers to provide appropriate management an important aspect to consider. This situation underpins the need for further assessment of healthcare workers' knowledge and skills in dealing with febrile seizures in children.

Based on the description, febrile seizures are a condition frequently found in children, especially between the ages of 6 months and 5 years. Although most cases have a good prognosis, this condition still requires appropriate assessment and treatment. The competence of healthcare workers in the form of knowledge and skills is a crucial part in ensuring that patients receive appropriate treatment for their clinical condition. Good knowledge needs to be accompanied by practical skills so that healthcare workers can respond quickly, systematically, and appropriately when dealing with children with febrile seizures. Therefore, based on the high relevance of this case in pediatric services and the importance of healthcare worker competence, researchers are interested in conducting a study on "The Level of Knowledge and Skills of Healthcare Workers Regarding the Management of Febrile Seizures in Children at Haji General Hospital."

2. Literature Review and Problem Statement

Febrile Seizures in Children

Febrile seizures are seizures that occur in children of a certain age and are associated with an increase in body temperature without any central nervous system infection, acute metabolic disorders, or a history of previous afebrile seizures. This condition most often occurs in children aged 6 months to 5 years because their nervous systems are still developing and they have a relatively lower seizure threshold than adults. Febrile seizures can be classified into simple febrile seizures and complex febrile seizures based on duration, seizure characteristics, and frequency of recurrence within a given period. Although most febrile seizures have a good prognosis and resolve spontaneously, they still require precise clinical assessment to differentiate them from other, more serious neurological conditions. Understanding the definition, risk

factors, classification, clinical manifestations, and complications of febrile seizures is an important foundation for healthcare professionals in providing appropriate care to pediatric patients.

Management of Febrile Seizures in Children

The management of febrile seizures in children aims to maintain vital functions, stop prolonged seizures, prevent injury, identify the cause of the fever, and determine the need for further examination and therapy. During a seizure, healthcare workers must prioritize assessing and maintaining the airway, breathing, and circulation, while ensuring the child is in a safe position and protected from the risk of injury. The duration of the seizure must be considered, as longer seizures require pharmacological intervention according to indications and service protocols. After the seizure has stopped, an evaluation of the neurological condition, the source of the fever, hydration status, and the presence of any warning signs requiring further examination or treatment is performed. Appropriate management requires healthcare workers to systematically follow procedures so that clinical decisions can be made quickly and appropriately based on the patient's condition.

Health Workers' Knowledge Regarding the Management of Febrile Seizures

Healthcare workers' knowledge regarding the management of febrile seizures is a cognitive ability related to understanding the concepts, causes, risk factors, signs and symptoms, classification, examination, and principles of managing febrile seizures in children. Knowledge is one of the foundations for determining action because healthcare workers need to understand the patient's condition before intervening. A good level of knowledge can help healthcare workers recognize the characteristics of febrile seizures, determine priorities for action, understand the indications for medication use, and identify conditions requiring further examination or referral. Conversely, limited knowledge can lead to errors in determining action or delays in providing care. Therefore, measuring healthcare workers' knowledge levels is important to determine their understanding of the management of febrile seizures in children in healthcare settings.

Health Worker Skills in Managing Febrile Seizures

Healthcare worker skills are the practical ability to apply clinical knowledge and procedures to provide care to children experiencing febrile seizures. These skills include conducting an initial assessment, maintaining the airway, monitoring breathing and circulation, ensuring the child's safety during a seizure, observing the duration and characteristics of the seizure, and taking action according to professional standards and authority. In emergency situations, skills must be implemented quickly, accurately, and in a coordinated manner, as delays in action can impact patient safety. Skills are not only influenced by knowledge but can also be related to education, work experience, training, and the frequency with which healthcare workers encounter seizures. Therefore, assessing skills, along with knowledge levels, can provide a more comprehensive picture of healthcare workers' preparedness to manage febrile seizures in children at Haji General Hospital.

3. Method

This study uses a descriptive method with a cross-sectional approach, namely research conducted to obtain an overview of the level of knowledge and skills of health workers in managing febrile seizures in children during one observation period. The cross-sectional approach allows the measurement of research variables and respondent characteristics to be carried out at a relatively simultaneous time, so that it can describe the condition of knowledge and skills of health workers at the time the study was conducted. The variables observed included the level of knowledge, skill level, age, gender, education level, and length of service of health workers at the Haji General Hospital in Medan (1).

The population in this study were health workers actively working at Haji General Hospital Medan, which included specialist doctors, general practitioners, midwives, and nurses. Sampling was carried out using a simple random sampling technique, namely each member of the population had an equal opportunity to be selected as a research respondent. The sample size was determined using the Slovin formula with a population of 300 people and an error rate of 10%, resulting in a sample size of 75 respondents. Respondents included had to meet the inclusion criteria, namely health workers working at Haji General Hospital Medan, willing to be respondents, and completing the questionnaire completely. Data collection was carried out using a questionnaire to obtain information regarding the level of knowledge and skills of health workers regarding the management of febrile seizures in children (2).

The collected data then went through data processing stages including editing, coding, entry, tabulation, data cleaning, and saving, then analyzed using SPSS (Statistical Package for the Social Sciences) software. Data analysis consisted of univariate and bivariate analysis. Univariate analysis was used to describe the frequency distribution and percentage of respondents' knowledge level, skill level, age, gender, education level, and length of service. Meanwhile, bivariate analysis was used to determine the relationship between the level of knowledge and skills of health workers and respondent characteristics, namely age, gender, education level, and length of service. The selection of bivariate statistical tests was adjusted to the type and scale of the data obtained, with a statistical significance level of $p < 0.05$ (3).

4. Results and Discussion

Research Results

This study was conducted in February 2025 at the Haji General Hospital in Medan with 75 respondents. Respondents in this study consisted of specialist doctors, general practitioners, midwives, and nurses working at the Haji General Hospital in Medan. The instrument used in this study was a questionnaire to measure the level of knowledge and skills of healthcare workers regarding the management of febrile seizures in children. The questionnaire was distributed to obtain an overview of the level of knowledge and skills of healthcare workers in understanding and implementing the management of febrile seizures in children.

This study has obtained ethical approval from the Health Research Ethics Committee of the Faculty of Medicine, Muhammadiyah University of North Sumatra, under license number 1399/KEPK/FK/UMSU/2024. The study used an analytical survey method with a cross-sectional design, meaning that research variables were measured at a single observation point. This study aimed to analyze the relationship between the level of knowledge and skills of healthcare workers regarding the management of febrile seizures in children at Haji General Hospital, Medan.

Univariate Analysis

Respondent Demographics

Univariate analysis was conducted to determine the frequency distribution and percentage of respondent characteristics. Respondent characteristics in this study included age, gender, education level, length of service, experience in identifying febrile seizures in children, knowledge level, and skill level.

Table 1. Frequency Distribution Based on Respondents' Age at Medan Haji Hospital in February 2025
(n=75)

Age	n	Percentage (%)
≤ 40 years	39	52.0
≥ 40 years	36	48.0

Age	n	Percentage (%)
Total	75	100.0

Based on Table 1, of the 75 respondents, the majority were in the age group ≤ 40 years, namely 39 respondents (52.0%), while respondents aged ≥ 40 years numbered 36 respondents (48.0%).

Table 2. Frequency Distribution Based on Gender of Respondents at Medan Haji Hospital in February 2025 (n=75)

Gender	n	Percentage (%)
Man	33	44.0
Woman	42	56.0
Total	75	100.0

Based on Table 2, of the 75 respondents, the majority were female, namely 42 respondents (56.0%), while the number of male respondents was 33 respondents (44.0%).

Table 3. Frequency Distribution Based on Respondents' Education Level at Medan Haji Hospital in February 2025 (n=75)

Level of education	n	Percentage (%)
Specialist Doctors and General Practitioners	19	25.3
Midwives and Nurses	56	74.7
Total	75	100.0

Based on Table 3, the majority of respondents were included in the midwife and nurse group, namely 56 respondents (74.7%), while the specialist doctor and general practitioner group numbered 19 respondents (25.3%).

Table 4. Frequency Distribution Based on Respondents' Length of Service at Medan Haji Hospital in February 2025 (n=75)

Length of work	n	Percentage (%)
≤ 10 years	36	48.0
≥ 10 years	39	52.0
Total	75	100.0

Based on Table 4, of the 75 respondents, the majority had worked for ≥ 10 years, namely 39 respondents (52.0%), while respondents with worked for ≤ 10 years numbered 36 respondents (48.0%).

Table 5. Frequency Distribution Based on Experience in Finding Cases of Febrile Seizures in Children at Medan Haji Hospital in February 2025 (n=75)

Experience Finding Cases	n	Percentage (%)
Once	75	100.0
Never	0	0.0
Total	75	100.0

Based on Table 5, all healthcare workers at Medan Haji Hospital (75 respondents, 100.0%) stated they had encountered cases of febrile seizures in children. No respondents stated they had never encountered cases of febrile seizures in children.

Table 6. Frequency Distribution Based on Respondents' Knowledge Level at Medan Haji Hospital in February 2025 (n=75)

Level of Knowledge	n	Percentage (%)
Good	41	54.7
Not good	34	45.3
Total	75	100.0

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Based on Table 6, of the 75 respondents, 41 respondents (54.7%) had a good level of knowledge, while 34 respondents (45.3%) had a poor level of knowledge. Thus, based on the results of the univariate analysis, the proportion of respondents with a good level of knowledge was greater than that of respondents with a poor level of knowledge.

Table 7. Frequency Distribution Based on Respondents' Skill Level at Medan Haji Hospital in February 2025 (n=75)

Skill Level	n	Percentage (%)
Good	38	50.7
Not good	37	49.3
Total	75	100.0

Based on Table 7, of the 75 respondents, 38 (50.7%) had a skill level in the good category, while 37 (49.3%) had a skill level in the poor category. These results indicate that the distribution of respondents' skill levels is relatively balanced between the good and poor categories, with the good category having a slightly larger proportion.

Bivariate Analysis

Bivariate analysis in this study was conducted to determine the relationship between the characteristics of health workers, namely gender, age, education level, and length of service, with the level of knowledge and skill regarding the management of febrile seizures in children at Haji General Hospital, Medan. The analysis was conducted using the Chi-Square test (χ^2) because the variables analyzed are categorical. Data processing was carried out using SPSS software version 26 with a significance level (α) of 0.05. The basis for decision making is that if the p-value is <0.05 then H_0 is rejected so there is a statistically significant relationship between the two variables, whereas if the p-value is ≥ 0.05 then H_0 fails to be rejected so there is no statistically significant relationship.

Relationship between Respondent Characteristics and Level of Knowledge regarding Management of Febrile Seizures

The results of the analysis of the relationship between respondent characteristics and the level of knowledge of health workers regarding the management of febrile seizures in children are presented in Table 4.8.

Table 8. Relationship between Respondent Characteristics and Level of Knowledge regarding Management of Febrile Seizures in Children at Medan Haji Hospital

Variables	Good Knowledge n (%)	Poor Knowledge n (%)	Total n (%)	p-value
Gender				0.415
Man	19 (57.6)	14 (42.4)	33 (100.0)	
Woman	22 (52.4)	20 (47.6)	42 (100.0)	
Age				<0.001
≤40 years	9 (23.1)	30 (76.9)	39 (100.0)	
≥40 years	32 (88.9)	4 (11.1)	36 (100.0)	
Level of education				<0.001

Variables	Good Knowledge n (%)	Poor Knowledge n (%)	Total n (%)	p-value
Specialist Doctors and General Practitioners	18 (94.7)	1 (5.3)	19 (100.0)	<0.001
Midwives and Nurses	23 (41.1)	33 (58.9)	56 (100.0)	
Length of work ≤10 years	8 (22.2)	28 (77.8)	36 (100.0)	
≥10 years	33 (84.6)	6 (15.4)	39 (100.0)	

Based on Table 4.8 The Chi-Square test results showed that there was no significant relationship between gender and the level of knowledge of health workers regarding the management of febrile seizures in children ($p=0.415$). There were 19 male respondents (57.6%) who had a good level of knowledge, while 22 female respondents (52.4%) had a good level of knowledge. The p -value of 0.415 is greater than 0.05, so statistically, gender is not related to the level of knowledge of respondents.

Based on age group, there was a significant relationship between age and the level of knowledge of health workers ($p<0.001$). In the age group ≤ 40 years, 9 respondents (23.1%) had good knowledge and 30 respondents (76.9%) had poor knowledge. Meanwhile, in the age group ≥ 40 years, 32 respondents (88.9%) had good knowledge and 4 respondents (11.1%) had poor knowledge. A p -value <0.001 indicates a statistically significant relationship between age and level of knowledge.

For the education level variable, a p -value <0.001 was obtained, indicating a significant relationship between education level and the level of knowledge of healthcare workers regarding the management of febrile seizures. The specialist and general practitioners group had a proportion of good knowledge of 94.7% (18 respondents), while the midwives and nurses group had a proportion of good knowledge of 41.1% (23 respondents). These results indicate differences in the distribution of knowledge levels based on respondents' educational groups.

Furthermore, the analysis results based on length of service showed a significant relationship between length of service and the level of knowledge of health workers with a p value of <0.001 . Among respondents with length of service ≤ 10 years, 8 people (22.2%) had good knowledge and 28 people (77.8%) had poor knowledge. Meanwhile, among respondents with length of service ≥ 10 years, 33 people (84.6%) had good knowledge and 6 people (15.4%) had poor knowledge. Thus, based on the results of the Chi-Square test, age, education level, and length of service had a statistically significant relationship with the level of knowledge, while gender did not show a significant relationship.

Relationship between Respondent Characteristics and Skill Level regarding Febrile Seizure Management

The results of the analysis of the relationship between respondent characteristics and the skill level of health workers regarding the management of febrile seizures in children at the Haji General Hospital in Medan are presented in Table 4.9.

Table 9. Relationship between Respondent Characteristics and Skill Levels regarding the Management of Febrile Seizures in Children at Medan Haji Hospital

Variables	Good Skills n (%)	Poor Skills n (%)	Total n (%)	p-value
Gender				0.359
Man	18 (54.5)	15 (45.5)	33 (100.0)	

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Variables	Good Skills n (%)	Poor Skills n (%)	Total n (%)	<i>p-value</i>
Woman	20 (47.6)	22 (52.4)	42 (100.0)	<0.001
Age				
≤40 years	4 (10.3)	35 (89.7)	39 (100.0)	
≥40 years	34 (94.4)	2 (5.6)	36 (100.0)	<0.001
Level of education				
Specialist Doctors and General Practitioners	17 (89.5)	2 (10.5)	19 (100.0)	
Midwives and Nurses	21 (37.5)	35 (62.5)	56 (100.0)	<0.001
Length of work				
≤10 years	8 (22.2)	28 (77.8)	36 (100.0)	
≥10 years	33 (84.6)	6 (15.4)	39 (100.0)	

Based on Table 4.9, the results of the Chi-Square test indicate that there is no significant relationship between gender and the skill level of health workers regarding the management of febrile seizures in children ($p=0.359$). There were 18 male respondents (54.5%) with good skills, while 20 female respondents (47.6%) had good skills. The p -value of 0.359 is greater than 0.05, so gender does not show a statistically significant relationship with the respondents' skill level.

Based on age, there was a significant relationship between age and the skill level of health workers ($p<0.001$). In the age group ≤ 40 years, only 4 respondents (10.3%) had good skills, while 35 respondents (89.7%) had poor skills. In the age group ≥ 40 years, 34 respondents (94.4%) had good skills and 2 respondents (5.6%) had poor skills. These results indicate a statistically significant relationship between age and skill level.

For the education level variable, a p -value of <0.001 was obtained, indicating a significant relationship between education level and the skill level of healthcare workers. In the specialist and general practitioner groups, 17 respondents (89.5%) had good skills, while in the midwife and nurse groups, 21 respondents (37.5%) had good skills. These results indicate that the distribution of skill levels differs based on respondents' educational background.

Meanwhile, based on length of service, a p -value <0.001 was obtained, indicating a significant relationship between length of service and the skill level of health workers. Among respondents with length of service ≤ 10 years, 8 (22.2%) had good skills and 28 (77.8%) had poor skills. Among respondents with length of service ≥ 10 years, 33 (84.6%) had good skills and 6 (15.4%) had poor skills. Thus, the analysis results show that age, education level, and length of service have a statistically significant relationship with the skill level of health workers, while gender does not show a significant relationship.

Discussion

This study was conducted in February 2025 at Haji General Hospital Medan involving 75 healthcare workers consisting of specialist doctors, general practitioners, midwives, and nurses. The study aimed to determine the level of knowledge and skills of healthcare workers regarding the management of febrile seizures in children and to analyze their relationship with respondent characteristics including age, gender, education level, and length of service. Based on the results of the study, the majority of respondents were in the age group ≤ 40 years (39 people) 52.0%, female (42 people) 56%, midwives and nurses (56 people) 56%, and had a length of service ≥ 10 years (39 people) 52.0%. All respondents also stated that they had encountered cases of febrile seizures in children, so they had experience in encountering this condition in the healthcare environment.

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Based on the results of the univariate analysis, 41 respondents (54.7%) had a good level of knowledge, while 34 respondents (45.3%) had a poor level of knowledge. Meanwhile, the skill level showed that 38 respondents (50.7%) were in the good category and 37 respondents (49.3%) were in the poor category. These results indicate that the proportion of health workers with good knowledge and skills was slightly higher than those in the poor category. This condition indicates that although the majority of respondents already had good knowledge and skills, there is still a proportion of health workers who need to improve their competence in managing febrile seizures in children. Adequate knowledge needs to be accompanied by practical skills so that health workers can apply the principles of febrile seizure management appropriately, especially in conditions that require a rapid response.

The analysis results based on gender showed no significant relationship between gender and the level of knowledge or skills of healthcare workers. The relationship between gender and knowledge yielded a p-value of 0.415, while the relationship between gender and skills yielded a p-value of 0.359. Although descriptively there was a difference in the proportion between male and female respondents, this difference did not show a statistically significant relationship. This indicates that the ability of healthcare workers to understand and implement febrile seizure management cannot be determined solely by gender. Competence in healthcare services is more related to the educational process, experience, training, case exposure, and opportunities to apply knowledge in clinical practice.

The results of the study showed a significant relationship between age and the level of knowledge of health workers, with a p value of <0.001 . In the age group ≥ 40 years, most respondents had good knowledge, namely 32 people (88.9%), while in the age group ≤ 40 years only 9 people (23.1%) had good knowledge. The same pattern was also found at the skill level, namely 34 respondents (94.4%) in the age group ≥ 40 years had good skills, while in the age group ≤ 40 years only 4 respondents (10.3%) had good skills. These results indicate a relationship between age and the competence of health workers in this study. Increasing age can go hand in hand with increasing life experience and professional experience, so that a person has more opportunities to face various clinical situations and develop decision-making skills.

Education level also showed a significant relationship with the level of knowledge and skills of health workers, with a p value <0.001 in both analyses. The specialist and general practitioners groups had a higher proportion of good knowledge and skills than the midwives and nurses groups. At the knowledge level, 18 of 19 specialist and general practitioners respondents (94.7%) were in the good category, while in the midwives and nurses group, 23 of 56 respondents (41.1%) had good knowledge. At the skill level, 17 respondents (89.5%) from the specialist and general practitioners group had good skills, while in the midwives and nurses group, 21 respondents (37.5%) were in the good category. These differences may be related to differences in education level, scope of competence, exposure to clinical material, and professional responsibilities of each health worker group.

The relationship between education level and knowledge and skills aligns with previous research showing that education can play a role in improving the theoretical understanding and clinical skills of healthcare workers. Higher education provides greater opportunities for individuals to acquire broader knowledge, develop critical thinking skills, and understand clinical procedures based on scientific foundations. However, the differences in results based on professional groups in this study require careful interpretation because the educational categories used also differentiate professional groups. Therefore, the relationship found cannot be directly interpreted as meaning that education level is the sole factor causing differences in knowledge and skills. Experience, training, work environment, and frequency of dealing with febrile seizures may also play a role in shaping healthcare worker competency.

Length of service also showed a significant relationship with the level of knowledge and skills of healthcare workers with a p value <0.001 . Respondents who had worked for ≥ 10 years had a higher proportion of good knowledge, namely 33 people (84.6%), compared to respondents with a length of service of ≤ 10 years, which only numbered 8 people (22.2%). A similar pattern was found for skills, namely 33 respondents (84.6%) with a length of service of ≥ 10 years had good skills, while in the group with a length of service of ≤ 10 years only 8 respondents (22.2%) had good skills. These findings indicate that work experience in this study is related to the level of knowledge and skills of healthcare workers. The longer a person has been in their professional work, the greater the opportunity to gain experience, deal with a variety of cases, interact with patients, and apply clinical procedures repeatedly.

The results of this study align with previous research that suggests that work experience can contribute to the development of healthcare workers' competencies. Experience gained during the course of work can help healthcare workers recognize patient condition patterns, prioritize actions, and increase their confidence in performing clinical procedures. In the context of febrile seizures, direct case encounters can provide healthcare workers with the opportunity to develop skills in recognizing seizure characteristics, observing seizure duration, maintaining patient safety, and taking initial action according to procedure. However, length of service does not always guarantee a higher level of competency without ongoing knowledge updates and training. Therefore, regular education and training are still necessary to maintain and improve healthcare workers' competency in dealing with febrile seizures in children.

Overall, the results of this study indicate that the level of knowledge and skills of healthcare workers regarding the management of febrile seizures in children at Medan Haji General Hospital is relatively balanced, with a slightly higher level of good than poor. Bivariate analysis showed that age, education level, and length of service were significantly associated with the level of knowledge and skills, while gender did not show a significant association. These results suggest that certain characteristics related to the experience and professional background of healthcare workers are associated with competence in the management of febrile seizures. These findings also support the importance of improving competence through continuing education, training, simulations, and updating knowledge regarding the management of febrile seizures so that all healthcare workers have adequate skills in providing services to children with febrile seizures.

5. Conclusion

Based on the results of research on the relationship between the characteristics of health workers and the level of knowledge and skills in handling febrile seizures in children at RSU Haji Medan, it can be concluded that the level of knowledge of health workers is mostly in the good category, which is 54.7%, while skills are in the good category at 50.7%. The results of the bivariate analysis showed that age, education level, and length of service have a significant relationship with the level of knowledge and skills of health workers with a p value <0.001 . Health workers over 40 years old, groups of specialist doctors and general practitioners, and health workers with a service period of more than 10 years have a higher proportion of the good category compared to other groups. Meanwhile, gender did not show a significant relationship with the level of knowledge or skills, with p values of 0.415 and 0.359, respectively.

Overall, the general objective of the study was achieved, namely to determine the level of knowledge and skills of healthcare workers at Medan Haji Hospital in managing febrile seizures in children and to analyze its relationship with healthcare worker characteristics. The results showed that although more than half of the healthcare workers had good knowledge and skills, there were still some healthcare workers who were in the poor category, so competency improvement was still needed. The results also showed that age,

education level, and length of service were related to the level of knowledge and skills, while gender did not show a significant relationship. Therefore, improving knowledge and skills through continuing education, training, and competency updates regarding the management of febrile seizures in children is necessary on an ongoing basis.

6. Reference

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