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Description of Emotional on Child Patients with Epilepsy at H. Adam Malik General Hospital Medan

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ABSTRACT

Epilepsy in children has the potential to have a significant negative impact on cognitive function, with a high risk of attention deficits and impaired executive function. Quality of life has been associated with cognitive performance, especially in verbal memory, which is one of the domains most sensitive to the negative effects of epilepsy. The purpose of this research is to know connection quality Sleep with emotional on pediatric patients with epilepsy. This study is an observational analytical study conducted at Haji Adam Malik General Hospital, Medan from August 2024 to September 2024. Calculation big sample use formula big non-experimental correlative sample based on previous studies, which produced a minimum sample size of 25 samples. The collected data was processed and analyzed univariately to describe the characteristics of the research respondents. The results showed that the subjects of the study were 6 (20.0%) children and 24 (80.0%) adolescents. Male gender 17 (68.0%) and female 8 (32.0%). Toddler age 5 (20.0%), childhood 16 (64.0), and early adolescence 4 (16.0%). Disturbed sleep quality 15 (60.0%) and undisturbed sleep quality 10 (40.0 %). Emotional disturbance 21 (84.0%) and sleep behaviour 4 (16.0%). Mean sleep duration 7.54 hours, minimum 6 hours, and maximum 10 hours. concluded that, the prevalence of sleep disorders in children with epilepsy at RSUP H. Adam Malik Medan was male 17 (68.0%), duration sleep has an average of 7.54 hours, sleep quality was disturbed there were 15 (60.0%), and disturbances emotional was disturbed by 21 (84.0%).

Keywords: child, epilepsy, sleep disorders

INTRODUCTION

Epilepsy is one of the most common chronic neurological conditions. common in the pediatric population, affecting approximately 0.5% to 1% of children. children, adolescents, and young adults worldwide (Varni et al., 2020). According to the World Health Organization (WHO), approximately 7.60 per 1000 people experience epilepsy during their lifetime and it has affected approximately 70 million people of all ages worldwide. world. Incidence epilepsy reaches 102 per 100,000 case every year, in the age range of 1 to 12 years. The incidence of epilepsy in children aged 11-17 years reaches 21-24 per 100,000 cases (Rozensztrauch & Kołtuniuk, 2022).

A seizure is a short-term intermittent change in movement or behavioural activity caused by abnormal electrical activity in the brain. Less of 1/3 of childhood seizures are epileptic (Dehghani et al., 2019). Children with epilepsy are at higher risk of experiencing emotional

and behavioural symptoms, which are more closely related to long-term health -related quality of life (HRQoL) than seizure variables. Recently, HRQoL assessment has attracted more attention because it reveals complaints about attention, learning, physical pain, and health-related quality of life related to epilepsy (Minwuyelet et al., 2022). This function refers to an individual's ability to perform some predetermined activities, while well-being refers to an individual's subjective feelings (Bouzgarrou et al., 2023). Poor quality of life can be an indicator of surgical intervention and epilepsy medication aimed at controlling seizures, and surgery can restore better quality of life (Stotaw et al., 2022).

The Pediatric Symptom Checklist (PSC) is a well-validated 35-item psychosocial screening tool intended for use in medical clinics and has been established for use in children with epilepsy. However, the PSC-35 total symptom score may not provide an accurate picture of a child's functioning (e.g., severe internalizing symptoms but no behavioral problems, then the total symptom score may be below the threshold limit). PSC short Which containing 17 (PSC-17) Items has lowered from the initial 35 items, and consists of three subscales: internalizing, externalizing, and attention. The PSC-17 has been validated in a sample of children attending primary outpatient services (Wagner et al., 2015).

Quality of life has been associated with cognitive performance, especially in verbal memory, which is one of the domains most sensitive to the negative effects of epilepsy. Epilepsy affects social functioning, causes family problems, prevents people from obtaining suitable employment, and reduces their standard of living. Management goals for quality of life are important in improving patient care, differentiating and assessing appropriate treatment options, and evaluating the distribution of health care resources. All The above factors have a major influence on QoL disorders. The goals of QoL management include improving patient care, differentiating and assessing appropriate treatment options, and evaluating the distribution of health care resources (Mao et al., 2021).

Sleep quality is more important for performance and recovery from illness than sleep quantity. Improvement in maternal emotional symptoms and sleep quality of adults old Which bad Also relate with problem Sleep on child epilepsy sufferers. Even without any medical condition, sleep disturbances can be seen in early childhood related to behavioral and mental problems. Sleep problems not only affect children's emotions, cognitive disorders, and behavior but also have a significant impact on physical health (Mekonnen et al., 2025).

Standardized assessments of neuropsychological functioning usually require time, cost, and

skill special for its interpretation, Which Possible be a barrier to routine assessment of cognitive function during clinic visits and for national and international clinical trials. Given the high prevalence of cognitive and executive function problems in adolescents with epilepsy. Therefore, based on this background, researchers are interested in conducting research on the relationship between sleep quality in pediatric patients with epilepsy and emotionality assessed by the PSC-17. [5,6] The purpose of this study was to know connection quality Sleep with emotional on pediatric patients with epilepsy.

METHODS

This study is a quantitative study with an analytical observational design conducted at the Haji Adam Malik General Hospital, Medan from August 2024 to September 2024. The big sample calculation uses the big non-experimental correlative sample formula based on previous research by Matthew J et al. From the formula above, the minimum number of samples needed is 20 samples and added 20% to anticipate dropouts so that the minimum number of samples is 25 samples. Data were collected through a questionnaire sheet containing information related to children's emotions in epilepsy. Before collecting data, an informed consent sheet was provided as a sign that they agreed to be research respondents. The collected data were processed and analyzed using SPSS version 26.0 computer software. Univariate analysis was used to describe the characteristics of the research respondents. Categorical data are presented in the form of frequencies and percentages. Numerical data are presented in the form of means or standard deviations if the data is normally distributed or medians (ranges) if the data is not normally distributed.

RESULTS

Characteristics of Research Subjects

This study involved 25 children with epilepsy at RSUP H. Adam Malik who had met the inclusion criteria. The subjects of the study were 6 children (20.0%) and 24 adolescents (80.0%). Man gender 17 (68.0%) and female 8 (32.0%). Toddler age 5 (20.0%), childhood 16 (64.0), and early adolescence 4 (16.0%). Disturbed sleep quality 15 (60.0%) and undisturbed sleep quality 10 (40.0 %). Emotional disturbance 21 (84.0%) and emotional undisturbed 4 (16.0%). Mean sleep duration 7.54 hours, minimum 6 hours, and maximum 10 hours

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Table 1. Characteristics of Research Subjects

Subject Characteristics	n (%)
Gender	
Man	17 (68.0)
Woman	8 (32.0)
Age	
Toddler	5 (20.0)
Childhood	16 (64.0)
Early teenage years	4 (16.0)
Sleep Quality	
Disturbed	15 (60.0)
Undisturbed	10 (40.0)
Emotional	
Disturbed	21 (84.0)
Undisturbed	4 (16.0)
Sleep Duration	
Mean	7.54 hours
Minimum	6 hours
Maximum	10 hours

DISCUSSION

Prevalence of gender

It was found that the majority of the research subjects were male 17 (68.8%) followed by female 8 (32.0%). This study is in line with the study of Sari et al (2023 which found that most of the research subjects with epilepsy problems were male, namely 63.4%. In contrast to the study of Putra et al (2022) that there was no difference in the number of male and female research subjects with a percentage of 50% each. The study of Utami et al (2024) also showed that the incidence of epilepsy was more common in men than in women. This study states that men can be a risk factor for epilepsy because there are several differences in the structure and head injuries experienced by men that trigger epilepsy. However, mood disorders in psychiatric symptoms are most common in women, such as feelings of sadness, depression, fatigue, laziness in activities that cause them to be more sensitive, or quiet.

Age prevalence

In the study by Altwaijri et al (2020) which involved 59 children with epilepsy aged 4-14 years and found that age did not have a significant relationship with emotional. This result is inconsistent with Yadav et al (2022) who reported a negative relationship between increasing age and scores QOL in the domains of physical pain, emotional well-being, and memory and language the age was only related to self-esteem, with adolescents scoring lower than younger children.

It is known that early in life, the brain is more susceptible to seizures and that seizures in the immature brain tend to depend on different mechanisms than in adults. Epilepsy in early childhood is often difficult to treat. This may be due to immature physiology in ion homeostasis and other developmental characteristics. Neonatal brain dysfunction and its behavioral expression may have their origins in the prenatal period. Early life seizures do cause much more chronic morphological changes in the hippocampus than do seizures in adult epilepsy in the temporal lobes of the brain. However, repeated early life seizures can result in permanent behavioral disorders and increased epileptogenicity (Khairin et al., 2020).

Sleep quality

Sleep quality is mostly disturbed 60% and not undisturbed 40%. In line with the study of Özdemir & Çelik (2024)involving 112 children, almost all epileptic children in this study experienced sleep disturbances, much higher than the normal population. Longer duration of epilepsy is associated with behavioral problems and children with persistent epileptic manifestations are at higher risk of social failure. Furthermore, epileptogenic networks with persistent changes in brain function and structure may have resulted in emotional and behavioral changes. Epilepsy treatment can cause significant side effects, such as drowsiness, irritability, nausea, and headaches, which have a particular risk for decreased quality of life (Zhao et al., 2022).

Emotional

The emotional state of the research subjects was mostly disturbed 84% and not disturbed 16%. In line with the research of Karanja et al (2021) the overall prevalence of emotional and behavioral problems was 46%, and the four main symptom groups were attention problems, aggressive behavior, social problems, and withdrawal or depression.

Psychosocial reactions to illness among children were seen in the moderate psychosocial reaction category. The main problem is that respondents do not fully accept it as part of their lives, so efforts are needed to address the problem of psychosocial reactions to illness with psychosocial assistance programs for children (Julinar & Mufakkir, 2021).

Sleep duration

The average sleep duration was 7.54 hours, the lowest duration was 6 hours, and the maximum duration was 10 hours. In line with the study Stirling et al (2023) There was a tendency for participants with epilepsy to sleep longer than the general population, although this difference

was not significant. Only 5 of 34 participants showed a significant difference in sleep duration the night before a seizure day compared to a seizure-free day. However, 14 of 34 subjects showed a significant difference in sleep onset (bedtime) and/or rest (waketime) before a seizure occurred. Overall, the results presented suggest that day-to-day changes in sleep duration have a minimal effect on reported seizures, while patient-specific changes in sleep and wake times are more important for identifying seizure risk the following day.

CONCLUSION

It was concluded that the prevalence of sleep disorders in children with epilepsy at H. Adam Malik General Hospital, Medan was male as many as 17 (68.0%), average sleep duration 7.54 hours, disturbed sleep quality as many as 15 (60.0%), and disturbed emotional disorders as many as 21 (84.0%).

LIMITATION

This study only looked at the distribution of emotional frequencies in children with epilepsy. It is hoped that further researchers can examine factors related to emotional disorders in children with epilepsy.

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