Comparison of the Children with Epilepsy with Their Healthy Peers' Physical Health, Activity Levels and Quality of Life

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Introduction

Epilepsy is a neurological disorder characterized by recurrent seizures that occur due to abnormal brain activity. It is a common disorder that affects people of all ages, including children. Epilepsy can have a significant impact on physical fitness, activity levels, and quality of life in children. Children with epilepsy may have limitations in physical activities due to the fear of triggering seizures or the side effects of medication. This can affect their overall health and wellbeing, including their quality of life. In this article, we will compare the physical fitness, activity levels, and quality of life of children with epilepsy and their healthy peers.

Physical fitness

Physical fitness is defined as the ability of an individual to perform daily activities with energy and vigor. Physical fitness can be measured through various parameters such as strength, endurance, flexibility, and body composition. Studies have shown that children with epilepsy have lower levels of physical fitness compared to their healthy peers (1). One study compared the physical fitness levels of 19 children with epilepsy and 19 healthy controls. The study found that children with epilepsy had lower scores in all physical fitness parameters, including aerobic fitness, muscular strength, and flexibility (2). Another study that included 30 children with epilepsy and 30 healthy controls found that children with epilepsy had lower levels of physical fitness and higher levels of body fat compared to their healthy peers (3). The lower levels of physical fitness in children with epilepsy can be attributed to various factors such as the fear of triggering seizures during physical activities, the side effects of medication, and the sedentary lifestyle. Children with epilepsy may avoid physical activities that require exertion or that involve a risk of injury. This can lead to a decrease in physical fitness levels over time [1].

Activity levels

Physical activity is essential for maintaining good health and wellbeing in children. Regular physical activity can improve cardiovascular health, muscle strength, and bone density, and reduce the risk of chronic diseases. However, children with epilepsy may have limitations in physical activities due to the fear of triggering seizures or the side effects of medication. Studies have shown that children with epilepsy are less physically active compared to their healthy peers (4). One study that included 85 children with epilepsy and 85 healthy controls found that children with epilepsy spent less time engaged in physical activities and had higher levels of sedentary behaviour compared to their healthy peers (5). Another study that included 26 children with epilepsy and 26 healthy controls found that children with epilepsy had lower levels of physical

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activity and higher levels of sedentary behaviour compared to their healthy peers (6). The lower levels of physical activity in children with epilepsy can have negative effects on their overall health and wellbeing. Lack of physical activity can lead to obesity, cardiovascular disease, and other chronic health conditions. It can also lead to a decrease in quality of life, as physical activity is known to have positive effects on mental health and social wellbeing [2].

Quality of life

Quality of life is a subjective measure of an individual's overall wellbeing. It encompasses various aspects of life such as physical, mental, and social wellbeing. Children with epilepsy may have lower levels of quality of life compared to their healthy peers due to the impact of seizures, medication, and limitations in physical activities. Studies have shown that children with epilepsy have lower levels of quality of life compared to their healthy peers. One study that included 30 children with epilepsy and 30 healthy controls found that children with epilepsy had lower scores in all domains of quality of life, including physical health, emotional wellbeing, and social functioning. Another study that included 40 children with epilepsy and 40 healthy controls found that children with epilepsy had lower levels of quality of life and higher levels of anxiety and depression compared to their healthy peers [3].

Epilepsy, which is defined as a brain disorder brought on by a lasting propensity of the brain to produce seizures and is characterised by at least one epileptic seizure, has neurobiological, psychosocial, cognitive, and societal repercussions. For those who have been seizure-free for the past ten years and off antiepileptic medications for at least five years, epilepsy is deemed to be resolved. Because each person's case of epilepsy is unique in its type and severity, epilepsy belongs to a group of disorders that are challenging to homogenise. Several nations have conducted substantial research on the prevalence of epilepsy, which is thought to impact 1% of the world's population. According to a study conducted in Turkey, 0.8% of children between the ages of 0 and 16 have epilepsy. Even though epilepsy is typically associated with seizures, the accompanying neurological, behavioural, intellectual, psychological, and motor issues have a more significant influence on patients' life [4].

Description

An individual's capacity to engage in physical activities requiring aerobic capacity, strength, endurance, and flexibility is referred to as physical fitness (PF). Childhood and adolescence with low levels of physical activity and fitness are linked to serious health issues such obesity, cardiovascular disease, musculoskeletal system impairment, poor quality of life, anxiety, and depression. Two investigations found that these health issues were likely to blame for adult epilepsy patients' less-than-healthy levels of physical fitness. The worry of triggering seizures during physical activity (PA) or exercise prevents many people with epilepsy from engaging in physical activity [5].

Many people with epilepsy are physically inactive out of worry that exercise or physical activity would trigger seizures as well as because of advice from loved ones and medical professionals to avoid strenuous activity. Even during really severe PA, none of the studies that looked into the impact of activity and exercise on people with epilepsy revealed any evidence of increased seizure frequency and moreover, studies have found that PA or exercise might cause epileptic discharges to lessen or stop altogether, which may result in a decrease in seizure recurrence. To our knowledge, there aren't many studies looking into PA and PF in children with epilepsy (CWE), compared to studies done on people with epilepsy. The objective of this study was to assess the outcomes and identify any differences between the CWE and their healthy peers (HP) in terms of physical activity, fitness, and health-related quality of life (HRQoL). We predicted that CWE would result in worse PF, PA, and HRQoL results.

Conclusion

Balance, physical performance, PA levels, HRQoL, and only back muscle strength within the PF assessments were found to be significantly lower than HP as a result of our study, in which the PF and PA levels, as well as the HRQoL of children with epilepsy and healthy controls, were evaluated and compared. In addition to these, the CWE had higher BMI and worse flexibility as well as lower abdominal and upper extremity muscle strength. Despite the fact that these variations were not statistically significant, we believe that. The study's key result is that people with epilepsy are significantly impacted from an early age in terms of their physical health, level of activity, and quality of life. As epilepsy should be regarded as a risk factor for low physical fitness in children,

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