Republic of Iraq
Ministry of Higher Education and Scientific Research
University of Babylon
College of Nursing

Quality of Life and its associated Factors Among Children with Epilepsy: parents perspective

Dissertation Submitted By

Mustafa Kareem Jawad

To the Department of Child and adolescent Health Nursing College of Nursing - University of Babylon in Partial Fulfillment of the Requirements for the Degree of Doctorate Philosophy in Nursing

Supervised By

Prof. Nuhad Mohammed Kassim
(Ph.D.)

May 2023 A.D. **Dhu al-Qi'dah 1444 A.H.**

بسم الله الرحمن الرحيم

(وَاصْبِرْ لِحُكْمِ رَبِّكَ فَإِنَّكَ بِأَعْيُنِنَا
وَسَبِّحْ بِحَمْدِ رَبِّكَ حِينَ تَقُومُ ۝ صلے
وَمِنَ اللَّيْلِ فَسَبِّحْهُ وَإِدْبَارَ النُّجُومِ)

صدق الله العلي العظيم

﴿من سورة الطور الآية 48, 49﴾

Supervisor Certificate

This is to certify that the dissertation entitled: **(Quality of Life and its Associated Factors Among Children with Epilepsy: parents perspective)** submitted by **Mustafa Kareem Jawad** to the University of Babylon, College of Nursing in partial fulfillment of the requirements for the Degree of Doctor of Philosophy in Nursing. The dissertation work was carried out by the student under (**Prof. Dr. Nuhad Mohammed Kassim**) supervision and guidance.

Signature

Prof. Nuhad Mohameed Kassim (Ph.D.)

Date: / / 2023

Signature

Assistant Prof. Wafaa Ahmed Amin. Ph.D

Head of the Maternal, Newborn, Child and Adolescent

College of Nursing / University of Babylon

Date: / / 2023

Certification

We, the members of the Dissertation Discussion Committee, certify that the we have reviewed the dissertation entitled **(Quality of Life and its Associated Factors Among Children with Epilepsy: parents perspective)** carried out by **Mustafa Kareem Jawad** and examined the student in its contents and what is related to it on 7 / 8 / 2023.

We decided that the dissertation is accepted in partial fulfillment of the requirements for the degree of **Doctor of Philosophy in Nursing science** with an estimation of ( ).

Member
Prof. Dr. Shatha Saadi Mohammad

Member
Prof. Dr. AbdulMahdi.A.Hasan

Member
Assist. Prof. Dr. Adraa Hussein Shawq

Member
Assist. Prof. Dr. Mays Hadi Jebur

Chairperson
Prof. Dr. Saja Hashim Mohammed

Approved by the council of the college of Nursing

Prof. Dr. Amean Ageel Yasir
Dean of Collage of Nursing
Date: / / 2023

Dedication

To

The one who support me to knowledge, and with increasing boasting My Father
The one for whom my heart is happy to see My Mother.
Those nearby to my spiritual My wife and children
My brothers & sisters with respect
Then to everyone who learning me characters
I say to them: you gave me life and hope and the development of a passion for knowledge

Mustafa

Acknowledgments

First, I thank Almighty Allah for completing my dissertation, and appreciation are dedicated to the Deanship of the College of the Nursing / University of Babylon represented by the ***(Prof.Dr. Amean Ageel Yasir)****, also the educational members and staff.*

Also thanks to the ***Head of Pediatric Nursing Branch.***

*Also, thanks the supervisor, (****Prof. Dr. Nuhad Mohameed Kassim)****, for supervising me through this experience, and also for guiding and inspiring me until the end of this journey.*

I would also like to express my appreciation to all ***(experts)*** *who have enriched the study by their scientific guidance.*

Thanks and gratitude are to all librarian of the College of Nursing, University of Babylon.

Thanks and appreciation to all the staff of the Neurological System Center for their assistance in the process of collecting samples

Thanks and appreciation to all parents and children who participated in the study and were a major reason for completing this dissertation.

Abstract

Background: Epilepsy a global disease and continuous rising among the children and adolescents, also the psychological problems are commonly prevalence among children So, epilepsy can have a significant negative influence on quality of life physically and emotionally social and psychological function.

Methods: A(descriptive) cross-sectional study design, conducted on the children with epilepsy in Neuroscience center in Al-Diwaniyah Province. The study aimed to assess the quality of life and associated factors among children with epilepsy.

A non-probability sample (purposive) that included (106) parents of children (at school age and adolescents) with epilepsy. The study tools consisted of a brief quality of life scale (QOLCE43) that was modified from (Quality of Life Questionnaire in Childhood Epilepsy 55) to assess their quality of life, as well as questions about the demographic characteristics of the children and their parents.

Results: The study found that the highest percentage (48) % of children ages was 11-15 years, and more than half of the sample were males, and 64% of the sample was educational level in primary schools. Less than half of the sample were diagnosed after 7 years, 38.7% of the children had a duration of epilepsy between 3-5 years, and 63.2% also had generalized epilepsy. Less than two thirds of the children had 1-4 frequency of seizures during the month. More than half were adherence to taking the treatments, and the majority of the children did not have other diseases, other results of study revealed (50.9%) moderate level of quality of life, but (60.4%) had high level of stigma.

Conclusion and Recommendation: The study concluded that the overall assessment of the children quality of life with epilepsy was moderate level also most children have a high level of stigma and there was a significant relationship between some factors, demographic characteristics and quality of life among children with epilepsy. The study recommended the need to work on improving the quality of life for children with epilepsy by focusing on physical, emotional, social, cognitive functions by involving them in school events or special activities also creating awareness as well as educational programs for parents and children with epilepsy about the disease and how to deal with it and associated stigma through radio and television, as well as social media.

Table of Contents

List of Tables

List of Figures

List of Abbreviations & Symbols

Items	Meaning
Symbols	
%	Percent
&	And
>	Greater than
<	Less than
≥	Greater than or equal.
=	Equal
A	
AED	Anti-epileptic drug
ADHD	Attention deficit hyperactivity disorder
ASD	autism spectrum disorder
AD	Adolescent
C	
CWE	Children With Epilepsy
CEQ-P	Child Epilepsy Questionnaire Parental Form
CNS	Central Nervous System
CT	Computed Tomography
CFI	Chulalongkorn Family Inventory
D	
D.F	Degree of Freedom
E	
EEG	Electroencephalogram
e.g	Example
H	
HRQOL	Health Related Quality Of Life
I	
ILAE	International League Against Epilepsy
	G
M	
MS	Mean Of Score
MRI	Magnetic Resonance Imaging
N	
N	Total Number Of The Sample
N.S	Non-Significant

P	
P.value	Probability Value
PHC	Primary Health Care
P	Prevalence
Q	
QOL	Quality of life
S	
S	Significant
SD	Standard Deviation
SE	Status Epileptics
SPSS	Statistical Package Of Social Sciences
SES	Socioeconomic Status
SE	Standard Error
T	
TG	treatment gap
U	
U.S.A	United States American
UK	United Kingdom
V	
VNS	Vagus Nerve Stimulation
W	
WHO	World health organization

List of Appendices

Chapter One
Introduction

Chapter One
Introduction

1.1. Introduction

Epilepsy is one of the most common neurological diseases, affects children life significantly and is described by recurrent episodes of spontaneous seizures with or without loss of consciousness. According to international burden of disease, the epilepsy is second most severe neurologic illness global (Abuga et al.,2022)

In addition to, epilepsy is one of the most serious illnesses, affects 70 million persons globally and is a brain disorder that has an effect on general health and other issues that cause human dysfunction (Samanta et al, 2022).

Epilepsy is a collection of brain electrical system abnormalities, transforms a brain that is producing excessive electrical charges into a brain that is susceptible to cause recurring seizures. Which in most children result in changes in behavior, awareness, feeling and may change movement, as well as convulsions or loss of consciousness and can happen from a few seconds to a few minutes. Seizures can happen to adults as well as young children (Nazarov, 2022).

Childhood epilepsy is thought to have long-lasting effects on a child development, is an important cause of childhood impairment and disability, and can have a negative effect on a child physical, social, and psychological skills. all these effects have an impact on a child life opportunity, life span, and general well-being. Children with epilepsy (CWE) are better able to explain how the condition affects them as they get older since these impacts

become more noticeable as cognitive abilities and life experience develop (Hussain et al., 2020).

Worldwide, epilepsy affects all ages, races, genders socioeconomic classes, and geographic areas. Geographically, it has been stated that the incidence and prevalence of epilepsy are lowest in developed nations and higher in rural parts of impoverished nations (Chemnitz, 2020).

Misconceptions about epilepsy disease may include the overprotection of epileptic children by their families, which prevents them from participating in social activities or sports or attending alone to the school. This has a serious negative impact on the children quality of life and can cause anxiety and lack of confidence, as well as a fear of leaving their homes unaccompanied in the future. If they experience a seizure in public, they could be afraid of what others would think of them (Al-dossari et al, 2018).

Epilepsy can have a significant negative influence on a children quality of life, both physically and emotionally. Children with epilepsy experience not only physical risks like falls and burns but also social and psychological stigmatization, a lack of understanding, isolation, and uncertainty because seizures are unpredictable. Epilepsy has historically been culturally stigmatized all throughout the world. Psychological stress is frequently caused by this devaluing (Suliaman et al.,2017; Rosenberg et al, 2018).

Although the majority of epileptic children can free of seizures with the right therapy and optimal use of treatment, until now, the results of treatments alone are still insufficient, and many suffer from uncontrolled epileptic seizures, especially in low-income countries. Numerous factors are

linked to the success of epilepsy treatment. One of these characteristics is the existence of co-morbidities. Other factors include the gender of epileptic children, their age at the time of the seizure, the type of seizure, the frequency, and the etiology of the epilepsy (Mekonen et al., 2015; Regmi, 2021).

Contrary to developed nations, those in developing nations lack knowledge about epilepsy and believe that it is a result of God's punishment for sins evil spirits and witchcraft. Therefore, some people are so certain that these substances cause epilepsy that they even refuse to get medical attention when they are ill. As a result, stigma, prejudice, and discrimination frequently affect epileptic children and their families (Mutanana & Mutara, 2015).

Children with epilepsy are at a higher risk for having a poor quality of life because it is one of the neurological conditions that affects children and adolescents the most frequently during childhood (Cappelletti et al.,2020).

The World Health Organization (WHO) defines quality of life as how individuals perceive their position in the world in relation to the culture and value systems in which they live as well as their personal goals, expectations, standards and worries. It is a comprehensive notion that complexly incorporates a subjective evaluation of one's physical and mental well-being, level of independence, social connections, religious views, and interactions with their surroundings. Beyond just treating symptoms, the concept of quality of life includes a child subjective sense of wellbeing, functioning, contentment (Tripathi, 2018).

Children who have epilepsy have a low level quality of life than both the general peers and many other children who suffer from chronic illnesses.

However, other from concentrating on symptom reduction, the quality of life of children with epilepsy is rarely given any consideration. This raises the cost of healthcare while also increasing seizure frequency. In order to manage the epilepsy and apply certain interventional programs to enhance these children quality of life, it is important to measure the QOL of epileptic children (Maha et al, 2020).

Quality of life (QoL) is influenced by a variety of elements that are directly related to frequent seizures and drug side effects. QoL is a complicated and multifaceted concept that describes each children good and negative facets of life to represent a child overall well-being. In the modern, advanced stage of the medical care system, development emphasis is put on both the children quality of life and the direct treatment (Rozensztrauch & Kotuniuk, 2022).

In addition to, epilepsy is significantly impairing functioning and daily life and lowers quality of life (QOL). Multiple factors, such as seizure frequency and severity, sadness and anxiety, the existence of comorbidity, and coping with the immediate disease-related difficulties of epilepsy, contribute to the challenges of living with epilepsy. A child view of the quality of life and satisfaction with life can be significantly impacted by a chronic condition such as epileptic seizures. Epilepsy can also result in negative social, emotional, and physical effects (Honari et al., 2021; Subki et al., 2018).

Additionally, to improving a child with epilepsy quality of life, which is a requirement with treatment. There are many ways to treat epilepsy. Anticonvulsant medications, which are frequently recommended to treat

epilepsy, are typically required, along with a particular diet high in fat and low in carbohydrates, to assist manage the condition. Because more than half of children have not recovered under medical treatment alone (Helmstaedter et al.,2019).

School age children and adolescents with epilepsy often report poor socialization, a negative self-image diminished hope and ambition. Therefore, it has become necessary to work on improving the quality of life in children with epilepsy on a large scale as a very important goal and may be part of the treatment (Jafaar, 2014).

Additionally, children with epilepsy deal with psychological or psychosocial issues include emotional, behavioral, or environmental issues as well as social stigma. Therefore, rather than just seizure control, QOL should be a key outcome metric in the therapy of children with epilepsy (Choi et al., 2016).

Poor adherence, poor self-management, stigma, and other comorbid conditions have a significant detrimental influence on children quality of life, particularly with regard to their interpersonal and social connections. Therefore, psychosocial issues like anxiety, sadness, social stigma, and a lack of social support may have a negative impact on their quality of life (Gholami et al., 2016), physical and mental health comorbidities in children with epilepsy have been linked to worse health outcomes and a lower quality of life (WHO, 2019).

Negative social and psychological effects are more likely, particularly for people who are not in remission or who have intellectual disability. Epilepsy requires long-term therapeutic care and places a heavy financial

strain on individuals, families, health care systems, and society as a whole (Reilly et al.,2014).

Quality of life among children with epilepsy is significantly affected by several factors such as age, education status and unemployment of parent, early age of onset, frequency of seizure, stigma, comorbidity, non-adherence, side effect of antiepileptic drug, have been shown as the most common influence factors on QOL of children with epilepsy. Through the results of previous studies and their recommendations, which showed that the most important factors that affect the quality of life of children with epilepsy are the type of epilepsy, the time of the seizure, adherence to medication, and the stigma of the disease (Lee et al., 2021; Agung et al., 2022; Akdemir et al, 2016; Tegegne et al.,2014).

Children with epilepsy have a lower quality of life due to the disorder characteristics and its side effects. The aims of this study was to assess the quality of life in children with epilepsy and identify the associated factors that have an impact on this quality of life (Aryal & Jha, 2020).

1.2. Importance of study

Epilepsy is a major global health care issue and still an important cause of disability and mortality according to epidemiological studies. Children with epilepsy are at a higher risk of dying than the general population, according to the 2016 Global Burden of Disease Collaborators. Epilepsy accounts for a significant portion of the global disease burden. Suicide and unintended injury are two of the deaths that can be directly linked to epilepsy or seizures. Children in undeveloped countries had an epilepsy rate of

between 0.004 and 0.008%, additionally, the normal death rate for children under 16 is 1.1 per 1,000 people (Beghi, 2020; Abd El-mouty & salem, 2019).

Previous research statistics indicate that around 1 in 100 children suffer from epilepsy worldwide. However, the prevalence of epilepsy among children varies from one region to another, and may be affected by factors such as nutrition, environment, heredity, and exposure to various diseases of the nervous system (Rabie et al, 2016).

Effective seizure management can lower the risk of epilepsy related mortality, minimize morbidity, and significantly enhance quality of life. Epilepsy is a potentially fatal disorder that carries a risk of premature mortality and a risk of sudden death that is 24 times larger (Salpekar et al., 2013).

In recent years, the world has begun to pay more attention to diseases that cause disability, lead to mental illness, and increase stigma. Diseases related to epilepsy have also begun to receive more attention. Therefore, working to improve the quality of life, improve the psychological aspects, provide more social support, and work to strengthen children with epilepsy and form a balanced personality that is not affected by different circumstances has become one of the necessary things because it reduces psychological burdens, as well as contributing to reducing the occurrence of seizures and thus improving the health of the child (Gogou & Cross, 2022).

Epilepsy is one of the most dangerous and most common neurological conditions in the world and is considered a major public health problem because of the burden that the child gets, as well as on the family and society, as well as the economic impact that occurs to the family that has a child with

epilepsy, and this burden and impact increases when the epilepsy is more severe and complex because the need It increases to more treatments and higher health and home care, in addition to increasing expenses and other medical costs (WHO ,2019).

The burden resulting from epilepsy is very high and it is often neglected by public health programs, as epilepsy in children is one of the most common diseases in the world and the risk of death in children increases to three times compared to the general children. Also, most children with epilepsy have at least one other condition. Psychological conditions such as anxiety and depression lead to increase epileptic seizures, and this leads to a deterioration in the quality of life (Tschamper et al., 2022).

Epilepsy presents a significant financial impact in addition to the epidemiologic and social burdens. In terms of therapy, epilepsy results in enormous financial consequences. According to estimates, several nations devote as much as 1% of their total national health care budget to the care and treatment of epilepsy, costs are often divided into direct and indirect, Indirect costs are defined as the "worth of time for parents lost from employment, while direct costs are described as "medical and nonmedical resources spent to the prevention, treatment or rehabilitation of individuals with epilepsy (Wagner, 2016).

Even while epilepsy is now more prominently on the global agenda due to a greater knowledge of its medical, social, and financial costs, it still faces challenges in becoming to be recognized as a public health priority (Trinka et al.,2019).

The constellation of symptoms that make up epilepsy differ in frequency and severity from child to child. It is recognized in literature that about half of epileptic cases start before the age of 15. Contrarily, there are still few investigations on epileptic children (Kago et al., 2019).

Epilepsy presents a major public health challenge in Iraq, as it does in many other countries, because to the vast treatment gap and the high disability and fatality rates (Abdulkareem, 2021).

“According to Iraqi Ministry of Health Statistic in Baghdad, Epilepsy is an emerging health concern, and the number of patients has increased in recent years, in 2011 The number of patients admitted to Iraqi hospitals climbed to 4409. The prevalence of epilepsy in Baghdad city was 8.2/1000. Also, there were no accurate statistics on the number of children with epilepsy (Jafaar and Mohammed, 2013).

When compared the CWE with general population, where it is estimated that 70% of children receive the recommended antiepileptic medications and that medical guidelines have a good impact on preventing recurrent seizures, children with epilepsy have a risk of premature death that is more than twice as high (Kassie et al.,2021).

Iraq is one of the countries where the epilepsy is prominent, especially among children. It's considered a humiliation disease. Because of the physical and psychosocial issues that epilepsy patients face, it was discovered that the majority of patients felt threatened with death and were subjected to social stigma, and that more than half of the patients didn't know why they were having an attack adding that despite taking medicine, half of them were unable to control their sickness (Al-Aameri & AL-Mayahi, 2022)

Since primary health care (PHC) is widely accessible and offers continuing and comprehensive care, it is a great setting for addressing lifestyle risk factors. When provided in a PHC setting, good conduct, diet, and physical activity have all been shown to be beneficial (Shah et al., 2022).

It has been shown that children with epilepsy have a high difficulty in their daily lives, hobbies, social interactions, and school activity. In addition, children with epilepsy are less socially adept than children without it. The community of children with epilepsy is diverse and complex despite the fact that they have a chronic illness. Epilepsy can take many different forms and ranges in intensity from mild to severe. The extensive and usually more severe associated neurological, intellectual, behavioral, or psychiatric problems are all thought to play a significant role in the poor quality of life for children with epilepsy (Camfield and Camfield, 2015).

In recent years, the quality of life (QOL) of children with epilepsy has received more attention (CWE). Because they are more likely to have high levels of anxiety and depression, and lower levels of self-esteem than the general population, they have been proven to report lower QOL. Both industrialized and developing nations experience social stigma and discrimination related to CWE. In many of these nations, this disorder is still hidden in secrecy, and patients prefer not to reveal or discuss their condition (DIN ,2019).

There is an urgent need for a deeper analysis of the quality of life, especially for children with epilepsy, as understanding and learning about his psychological and social functioning provides the possibility of taking the correct measures necessary to care for these children. Quality of life is

important to everyone. But, health is seen by the public health community as a multidimensional construct that includes physical, mental, and social domains. As advances in medicine and public health have reduced mortality rates and found solutions for existing diseases, it was only natural for those responsible for measuring health outcomes to begin evaluating the health of the population not only on the basis of saving lives, but also through improving the quality of life (Puka et al., 2018; Sajobi et al., 2021).

Understanding the impact of epilepsy on the lives of children and adolescents is an important problem faced by parents of children, and this is necessary to develop important and effective interventions to improve the quality of life of these children diagnosed with epilepsy (Riechmann et al., 2019)

Therefore, it is certain that optimal health and well-being is not limited to the absence of disease only, but it is possible to improve the quality of life well through healthy adaptation, despite the presence of a complex and long-term disease (Ring et al.,2016).

Importantly, epilepsy delays a child ability to develop independence and makes social interactions and cognitive functions more challenging. These are elements that affect the child unique development, so they should be continually assessed during the course of the therapy (Harb, 2018).

The most common psychological symptom of epilepsy, occurring in 10% to 30% of cases, is depression. A meta-analysis reported a 13.5% overall prevalence, higher than what is generally seen in children. Depressive feelings can result in poor seizure control, a decrease in quality of life, and even suicide. These statistics demonstrate the growing need to promote the

well-being of children with chronic diseases as well as the significant financial cost of poor well-being to the healthcare system. It is critical that the quality of life (QoL) of children with epilepsy is further researched because epilepsy has the ability to affect many of the inherent QoL areas, including alterations in self-image and life expectations (Al Kiyumi et al.,2021; Shaw et al.,2019).

When treating epilepsy, it's important to consider other clinical aspects besides those directly related to seizures because of the incidence of comorbid diseases is high in the children with epilepsy and the good long-term outlook for seizures being reduced. It is crucial to examine the child entire health picture, including comorbid diseases and health-related quality of life (HRQL), in order to measure results throughout childhood and into adulthood (scrivner et al., 2019; Cianchetti et al., 2015).

This study was conducted to analyze the total QOL of children with epilepsy in order to identify associated factors that can be altered, help healthcare professionals to see opportunities, enhance the controllable parts of children and adolescents with epilepsy to enhance their chances of life, reduce the seizures attack and avoid all negative effects produced by epilepsy. This view is consistent with (Riechmann, et al., 2019).

Improving the quality of life of children with epilepsy is one of the main goals of treatment, Therefore, studying the quality of life of children with epilepsy helps to determine the extent to which epilepsy affects their lives and to identify possible areas for improvement. It also helps to evaluate the effectiveness of treatment and determine whether it improves their quality of life or not. Thus, improving the quality of life of children with

epilepsy can lead to better mental and physical health and improve their general abilities (Cappelletti et al., 2020).

1.3. Statement of the study

Quality of Life and its associated factors among Children with Epilepsy: parents perspective.

Epilepsy is considered one of the most important neurological diseases that cause major disturbances in performance and daily life, and this leads to a decrease in the quality of life. There are many difficulties that result from the challenges of living with epilepsy and may be related to several factors including Type of epilepsy, frequency of seizure, time of seizure, age at diagnosis, presence of comorbidity and other factors associated with epilepsy. It may negative impact on quality of life (QOL). Therefore, to enhance overall QOL, it is crucial to comprehend the aspects that have the biggest influence on children who have epilepsy (Minwuyelet et al., 2022; Riechmann et al., 2019).

However, with all the risks that epilepsy produces for children, there is still a dearth of studies on the quality of life in general and the factors associated with it in particular for children with epilepsy.

1.3. Objective of the study

1. To assess the quality of life among children with Epilepsy.
2. To assess the associated factors with quality of life among children with Epilepsy.
3. To find out the relationship between the quality of life and associated factors (stigma, child age at diagnosis, duration of illness, type of epilepsy,

frequency of seizure, time of seizure occurs, adherence to treatment, presence of comorbidity).

4. To find out the relationship between the quality of life and demographical characteristics for parents and children such as (age, gender, educational level, occupation, socioeconomic status and residency).

1.4. Research questions:

The following research question are posed:

Is there a relationship between quality of life and associated factors among children with epilepsy?

1.5. Research hypothesis

H0: There is no relationship between the quality of life and associated factors among children with epilepsy.

H1: There will be relationship between the quality of life and associated factors among children with epilepsy.

1.6. Definitions of the Terms

1.6.1. Quality of life

A- Theoretical definition

It is a comprehensive concept that complexly incorporates a subjective evaluation of one's physical and mental well-being, level of independence, personal beliefs, social relationship, religious views, and interactions with their surroundings. A child subjective sense of wellbeing, satisfaction, functioning, and impairment are all included in the scope of quality of life, which goes beyond conventional symptom reduction (Revicki et al., 2022).

- Operational definition:

The degree of excellence and satisfaction with a children life, and how this factor affects quality of life during epilepsy and its complications.

1.6.2. Associated Factors

A- Theoretical definition

To have an influence on someone or something (Ali & Al-Qadi, 2017).

B- Operational definition:

The effect of many factors that may be causes and change in quality of life for children with epilepsy.

1.6.3. Epilepsy

A- Theoretical definition:

Is a neurological condition characterized by recurrent seizures. A seizure is typically described as a sudden change in behavior brought on by a transient alteration in the electrical functioning of the brain. The brain typically continuously produces minute electrical impulses that follow a predictable pattern. Chemical messengers known as neurotransmitters carry these signals along neurons, the network of nerve cells in the brain, and throughout the entire body (Falco et al., 2018).

B- Operational definition:

A collection of abnormal movements of the face and extremities, accompanied by a loss of consciousness in some cases, depending on the type of epilepsy, and this is related to an increase in electrical activity in the brain.

Chapter Two
Review
of Literature

Chapter Two

Review of Literature

2.1. Historical Background of Epilepsy:

The word epilepsy comes from the Greek epilambanin, which means (being shocked) by anything unexpected. It is clear that epilepsy has affected humans since the beginning of their evolution, about 5 million years ago. It was considered one of the very few diseases that had more social and medical interest, discussion and misunderstanding (Karakis., 2019).

The history of epilepsy dates back to an Akkadian tablet, which is about 4000 years old and was found in Mesopotamia, where an engraving on the disk describes a person whose eyes are wide open and his neck turning to the left and foth flows from his mouth unconsciously, as well as his hands and feet tense (Lebling, 2010).

The late Babylonians wrote a diagnostic manual entitled Sakikku about a thousand years later, which described epilepsy. In this manual, the Babylonians describe many types of spells and classify them based on their presentation. They also had an understanding of many of the predictors, detailing different outcomes depending on the type of seizure, including poor outcomes in epilepsy, as well as later outcomes in other types of seizures. Also, this tablet provided detailed descriptions on important terms associated with epilepsy such as sibtu (seizure), hayato (feet), migueto (fall) (Reynolds & Kinnier, 2014).

In ancient Egypt, more evidence of the existence of epilepsy was found, and one of these evidences is Edwin Smith's Wounded Papyrus, which was written in 1700 BC and described many accounts of epilepsy, one of

which was of particular importance. The Egyptians documented a case in which direct brain stimulation led to a response physiological, the case they described was of a man with a deep wound in his head, and upon touching the wound, the man shudder exceedingly (Fordington, & Manford, 2020).

Hippocrates was one of the first to attribute epilepsy to the brain and indicated that it is not contagious, it is a genetic disease. He described the clinical symptoms of the disease as an aura with unilateral movement signals, and this aura is a warning signal that allows the patient to leave the audience immediately before entering into a state of convulsion. In that period, it was most common that epilepsy was caused by spirits, until Hippocrates came and explained the non-spiritual basis of epilepsy, but unfortunately, the Hippocratic hypothesis had no significant impact on the prevailing belief in that period (Perrotta, 2020).

The time period of history for epilepsy was summarized by four thousand years of superstition, ignorance and social stigma, followed by 100 years of superstition, stigma and information in modern history, where according the believed of people that epilepsy should be treated with incantations and extermination because it was sent by the gods (Wolf, 2010).

A point of view prevailed at the beginning of the eighteenth century, saying that epilepsy is transmitted from the brain and internal organs, and it is a disease of unknown cause. In the middle of the nineteenth century, the focus of medicine was on the general lines of the physiology of epilepsy, the general description of epileptic seizures, as well as the emergence of epilepsy, its causes and the scientific classification of the disease (berg et al., 2010; Kaculini et al.,2021).

The progress made in modern societies had a distinctive reflection in the lives of people with epilepsy, as epilepsy experts and support associations in many countries began by any means contributing to the provision of legislation that protects the real interests of patients (Wolf, 2010).

2.1.1. Epilepsy: As an overview

Epilepsy is a neurological disorder characterized by the disruption of electrical activity in the brain, often causing recurrent seizure activity. Epilepsy is one of the most debilitating neurological conditions and is unique in terms of type and symptoms compared to many other neurological diseases and disorders such as cerebral palsy. Epilepsy is one of the most common neurological conditions. Which amounted to an 8-10% risk of developing epileptic seizures over the course of life (Kreutzer et al., 2016)

Epilepsy is a condition that is diagnosed when someone has a multiple episodes and has a persistent propensity to have regular epileptic seizures. As a resource for comprehensive knowledge on epilepsy, the International League Against Epilepsy (ILAE) considers itself to be open to everyone. The International League Against Epilepsy (ILAE) defines epilepsy as a brain disease that causes epileptic seizures in its sufferers. (Fisher et al, 2014). The current definition set out by the ILAE is of a person experiencing a minimum of two motiveless seizures in over 24 hours, or one epileptic seizure and the likelihood of other seizures occurring due to brain damage, caused by stroke or infection of the brain (Specchio et al, 2022).

To accurately distinguish the presence of epilepsy, there must be at least one seizure, for example, knowing this either through family history or through a change in the formation of the EEG. Epilepsy must occasionally

be classified by criteria other than the recurrence, or possibility for recurrence, of seizures. It is possible for some epileptics to experience behavioral changes, such as interictal and postictal cognitive issues (Falco-Walter et al.,2018).

As for seizures, they may start in one or both hemispheres of the brain, as well as make the patient suffer during the seizure period from motor symptoms and a change in the individual awareness of his surroundings. Therefore, it is necessary to conduct emergency medical support, early diagnosis, and give the necessary treatment to prevent status epileptic. Status epileptic (SE) it is considered one of the cases in which the seizures are abnormally prolonged, and this condition, if it continues, will have long-term consequences (for example, if it exceeds 30 minutes) that leads to a change in the neural network, injury to neurons, and the death of neurons, all depending on the type and duration of seizures (Trinka & Kälviäinen, 2017; Weinstein et al., 2016).

Electrical activity is happening in the brain all the time. A seizure happens when there is a sudden burst of intense electrical activity. This intense electrical activity causes a temporary disruption to the way the brain normally works, meaning that the brain signals get jumbled. A seizure due to epilepsy results. All of a child body functions are controlled by the brain. What happens to them during a seizure depends on where in their brain it starts, how far it spreads, and how quickly. Due to the variety of seizure forms, each child with epilepsy will have an individual experience with the condition (Pack, 2019; Harb, 2018).

The effects of epilepsy are wide-ranging and intricate. The seizures itself can be upsetting and disturbing, but it has not been found that the frequency of seizures is a reliable indicator of a lower level of overall wellbeing, pointing to further complex variables. Individuals who have epilepsy frequently say that their condition's psychosocial and cognitive side effects are more distressing than its episodes. The most common reported symptoms were disturbances to mental and emotional wellbeing as well as impairments to cognitive processes, such as the capacity to focus and recall information (Tedrus, et al., 2020; samia et al., 2019).

2.1.2. Anatomy and physiology of brain

The brain is the most intricate and most mysterious part of the human body. The majority of people have the set of abilities we so frequently take for granted as proof that it is functioning well because its core structures are concealed from view. The chemical activity and highly synchronized electrical between and between the cells that make up brains is responsible for waking up, walking and running, hearts beating, tasting, breathing and thinking (Panteliadis et al., 2017).

The three main parts of the brain are the brain stem, the cerebrum, or cerebral lobes, and the cerebellum. Cerebrum It makes up the majority of the brain (80% of its mass) and is the area of the brain that is principally in charge of higher mental functions. The largest and most well-known of the three structures is the cerebrum. The cerebral cortex, also known as gray matter, is the cerebrum highly folded, densely packed outer layer of neurons. The layer of white matter is usually equipped with nerve fibers and its function is to

transmit messages to cells in other areas of the body coming from neurons in the cerebral cortex (Okafor et al.,2022).

The corpus callosum is a group of fibers that connects the right and left hemispheres of the cerebrum, also known as the hemispheres, which are located close to the middle of the brain. The myelin sheath, a fatty, protein-rich covering on axons that make up the corpus callosum, facilitates the transfer of electrical signals from one neuron to another and from one part of the brain to the other (Bhushan et al., 2022).

The frontal, parietal, occipital, and temporal lobes are the four functionally different divisions of each hemisphere. The parietal lobe is involved in sensory interpretation and in making associations between experiences; the occipital lobe processes visual information; the temporal lobe is involved in memory, speech, and auditory and olfactory functions. “The frontal lobe is most frequently linked to personality, motor function, and a type of cognitive function called executive functioning. More than one lobe is involved in some complex processes. It's interesting to note that the brain's two hemispheres work in tandem to receive information from and regulate movement on the opposing sides of the body. For instance, according to(Genon et al.,2018) this indicates that neurons in the left frontal lobe send and receive impulses from the right side of the body (Genon et al., 2018).

The diencephalon is the part of forebrain that contains such important structures as the thalamus, hypothalamus, and part of pituitary gland. The hypothalamus performs numerous vital functions, most of which relate directly or indirectly to the regulation of visceral activates and the basic

function of hypothalamus is integrated and control of the autonomic nervous system and it coordinates the endocrine response of many hormones within the endocrine system. The diencephalon, together with cerebrum constitutes the forebrain and is almost completely surrounded by the cerebral hemispheres (Jones, 2019).

Brainstem composed of three regions, mesencephalon which consists of (Cerebral peduncles, Substantia nigra, Tegmentum, tegmentum and corpora quadragemenia). The second part of the brain stem is pons play role in connecting the medulla with other part of the brain and involuntary control of respiration. The last part of the brain stem that extends from the spinal cord to the pons is medulla oblongata. It is play role in regulate heart rate, vasomotor centers that regulate the diameter of blood vessels and, thereby, blood pressure, and respiratory centers that regulate breathing (Chen & Koubeissi, 2019).

The largest second structure after cerebrum is cerebellum. It receives input from (joint, tendon, and muscles receptors) and, working together with the basal nuclei and motor area of the cerebral cortex, participates in the coordination of the movement (Johnson, 2019).

2.1.3. Pathophysiology

The neurons, which are specialized nerves that transmit electrical impulses throughout the central nervous and peripheral systems, are controlled by the brain to coordinate bodily processes. The nerve cells (neurons) of the brain must operate cooperatively in order to regulate cognitive processes, sensory perception, and skeletal muscle contractions. An electro-encephalogram (EEG) is an instrument for measuring the

electrical activity of the brain, and it can be used to diagnose epilepsy (Lawal et al., 2018).

Although the exact cellular processes that cause seizures to begin are not fully understood, hypotheses of specific pathways for seizure activity include altered neuronal membrane permeability, decreased inhibitory neuronal control, or an imbalance of neurotransmitters. hyperexcitation and hyper synchronization of a neuronal network cause an imbalance between neuronal stimulation and inhibition, which leads to seizures. Changes in ions and neurotransmitters cause hyperexcitation, and the loss of inhibitory neurons causes hypersynchronicity, which, based on the pattern of activity, can cause a partial or generalized seizure (Boss and Huether 2017).

Hypoxia, alkalosis, hypoglycemia, and aberrant neurotransmitter properties can all lead to changes in neuronal membrane properties, which can then release a lot of neurotransmitters at the synapse and trigger seizures (Farine 2003).

Because they have a reduced stimulation threshold, the neurons in the epileptogenic focus are hyperexcitable. Because irritable neurons are readily triggered by physiological changes, the seizure threshold may be lowered by conditions like lack of sleep, fatigue stress, constipation, and fever. The activity spreads as a result of the focal cells stimulating the adjacent normal cells (Van Meter and Hubert 2014).

Physical stimuli such as loud noises and bright lights, as well as biochemical stimuli such as hypoglycemia medication changes, excessive fluid retention, alkalosis, and abrupt withdrawal from sedatives and alcohol, can all cause epilepsy in some people. The postictal state, which is the time

right after an epileptic seizure can include signs like a headache, confusion, dysphasia, memory loss, temporary paralysis or deep sleep (Huether and Narayanan, 2017).

Children suffer from epilepsy disorder in the morning and this indicates that the defect is caused by the brain stem or may be the result of the spinal cord. It is usually due to lack of oxygen or genetic factors. This condition is characterized by moderate and muscular movement and may sometimes occur during sleep (Holmes, 2017).

2.1.4. Causes of epilepsy

2.1.4.1. Structural causes

Through a variety of brain imaging studies structural causes of seizures can be identified. some of children with seizure have abnormal imaging of brain, the anatomical anomaly may be directly related to the seizures symptoms and outward manifestations. History could be an important contributing element (Bernardo et al., 2020).

2.1.4.2. Genetic causes

The most significant singular group of epilepsy related causes is likely genetic factors. Most individuals with potential genetic epilepsy, however, still lack a specific defect, according to previous study. As prevalent forms of epilepsy that are primarily caused by genetic factors (Hani et al., 2015).

2.1.4.3. Infectious causes

Severe infections systemic can increase the chance of seizures even if they do not directly affect the brain because they can cause pyrexia, release

cytokines, metabolic dysfunction, and the activation of autoimmunity and cerebral infections (Vezzani et al., 2016: Balestrini et al., 2021).

2.1.4.4. Metabolic causes

Metabolic causes of seizures and epilepsy can be either acquired or genetic (inborn). The acquired metabolic causes of seizures can occur through the failure of an organ (e.g. liver, kidney or pancreas), nutritional deficiencies, autoimmune causes (e.g. type I diabetes mellitus, autoimmune cerebral folate deficiency) or exogenous drugs and toxins (Patel, 2018).

2.1.4.5. Immune causes

Immune diseases are one of the many conditions that can be linked to the occurrence of seizures. In order to manage epilepsy, which may be brought on by immune system inflammation in the brain. It may be necessary to treat the main cause that caused the seizures, and not just treat the seizures. These rare autoimmune-mediated epilepsies require prompt diagnosis in order to guarantee the best possible care (Vezzani et al., 2016).

2.1.4.6. Unknown causes

Some types of epilepsy do not have a known cause until now, as it depends on the availability of routine investigations, and this is in some very complex types of epilepsy. Several previous studies have found that the incidence of epilepsy without causes is higher in poor countries resource (Vezzani et al., 2016).

2.1.5. Epidemiology

Epidemiological studies provide important insights into the spread and burden of disease. Therefore, these data should make an important contribution to the understanding of the disease, leading to improved

treatment. In particular, epidemiological data can drive appropriate delivery of health services. Unfortunately, this is an ideal that is rarely achieved in practice. Collection of epidemiological data on epilepsy presents certain challenges (Ioannou et al.,2022).

Epilepsy is a group of disorders with many underlying reasons. These factors have a wide variety of epidemiological studies. Epilepsy epidemiology can be seen as a general representation of the burden of neurological morbidity in a community to some degree. A crucial summary assessment of the population's health is provided by the age-structure of the population, which is a result of age-specific death rates and the birth rate. The main determinants of this number are the infant and child mortality rates. High early death rates are primarily caused by infectious diseases, malnutrition, and labor and delivery issues, all of which are objectives of public health intervention. These are additional elements that affect neurological morbidity such as seizures (Ackermann et al., 2019; Ogundare et al., 2021).

It is crucial to keep in mind that when comparing the relatively high rates of epilepsy in developing nations to those in developed regions of the globe or even within comparable regions, the data are based on various assessment techniques. However, actual variations in prevalence and frequency also take into account the variety of causes of epilepsy and the age groups most impacted by those causes (Hauser & Hesdorffer, 2019).

According to the WHO, there are an estimated 50 million individuals with epilepsy worldwide, 85% of whom reside in developing nations (WHO, 2010).

Epidemiological research suggests that gender has an impact on epilepsy susceptibility and prognosis. In most studies, men in both developing and industrialized countries have a slightly higher overall incidence of epilepsy than women, but this difference is rarely statistically significant. According to a comprehensive review and multi study. Epilepsy is prevalent in some countries more than others around the globe, and it is particularly prevalent in young people. Except for New York, Bolivia, Honduras, and Argentina, where incidence is high in women, north, central, and south America are dominated by men. With the exception of Pakistan, which has a high preponderance of females, Asian nations like China, India, Turkey, and Saudi Arabia have a high male prevalence rate (Sadr et al., 2018; Espinosa et al., 2018).

Statistics indicate that 10.5 million people under the age of 15 suffer from active epilepsy, which means that their percentage is approximately 25% of people with epilepsy around the world, as well as the percentage of those who suffer from epilepsy every year about 3.5 million people, and about 80% of them live in developing countries and 40% are under the age of 15 (Goel et al., 2020).

The incidence of childhood epilepsy was 82.2 for each 100,000 children. The prevalence of epilepsy is greater than the incidence associated with the disease being particularly higher than that of the general population (Salpekar et al., 2013; Smithson & walker, 2012).

The first year of life is when children are most likely to develop epilepsy, with prevalence rates hovering around 150 cases per 100,000

people annually. After age 9, those rates drop to about 50 cases per 100,000 people annually (Trinka, et al., 2019).

The prevalence of epilepsy in the United States was 0.68%, in Europe as general 0.52%, in Iran 1.8%, in India 8 and 22.2 /1000, in Turkey 8/1000, and in Japan the occurrence 9 for each1000. The relationship between the incidence of epilepsy and its risk factors (Rabie et al., 2016).

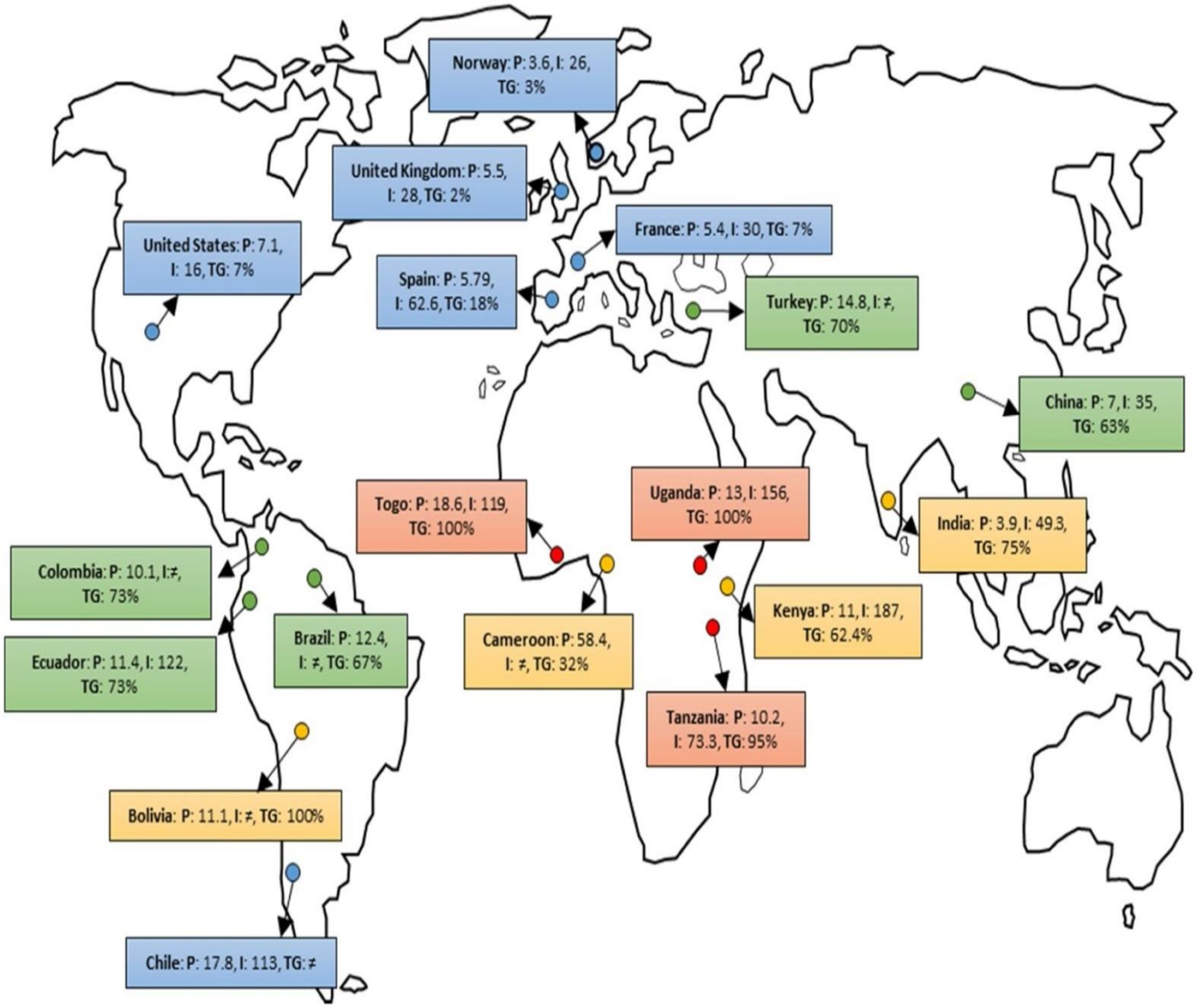
In developing countries 1.5% and that about (50%) of the cases are premature. Studies have been conducted in different countries with different findings on the prevalence of epilepsy, in Arabic World It is estimated that 724,000 people suffer from epilepsy. However, they are trying to mitigate or downplay the importance of epilepsy because the disease carries a great social stigma among Arab nationalities (Rani & Thomas, 2019).

Regarding the mortality of epilepsy, the majority of epileptic children have a good result and a normal life expectancy. Children with epilepsy have an increased risk of death. Most deaths occur in children with severe underlying conditions and are not directly related to the occurrence of seizures (Berg et al., 2013).

There are numerous established causes for this elevated risk of mortality and incidence, some of which include: problems from epilepsy or its treatment (for example, drowning or burn related injury, traumatic aspiration of gastric contents, suffocation). Convulsive status epilepticus is the result. owing to an underlying static or advancing neurological or structural cause of mortality for example (cerebral digenesis, brain tumor). In addition, this increased risk occurs for several reasons, lethal neuro metabolic conditions that present with epilepsy systemic complications

associated with neuro disability, indirect factors resulting in higher mortality (eg, suicide) and deaths shown or presumed to be directly due to the occurrence of a seizure (Abuga et al.,2021; Abdel-Mannan et al., 2019).

Premature all-cause mortality remains a major problem in CWE globally, particularly in children and adolescent with most being epilepsy related. Mortality is increased in epilepsy, but the important issue is that a proportion of epilepsy-related death is potentially preventable by optimized therapy and therefore needs to be identified. A new systematic classification of epilepsy related mortality has been suggested to identify these preventable deaths (Kløvgaard et al., 2022).



(Figure:1). Differences in prevalence, incidence and treatment gap in epilepsy among several countries. The circles' color corresponds to the World Bank's classification of countries based on their gross national revenue per capita, yellow is the lower middle income, red is the low income, blue is the high income, green is the upper middle income, P = prevalence of active epilepsy, number of cases per 1000 people. I = Incidence of epilepsy, number of new cases per 100,000 people/year. TG = treatment gap expressed as a percentage. ≠ No data. (Espinosa et al., 2018).

2.1.6. Classification of Epilepsy:

Epileptic seizures and epilepsy syndromes should be classified based on the kind of seizure, the epilepsy syndrome and the etiology, because different types of epilepsy induce diverse signs and symptoms. The seizure type(s), epilepsy syndrome, etiology and comorbidities should be properly recognized because failing to diagnose the epileptic syndrome accurately may result in incorrect therapy and the continuation of seizures (Anwar et al., 2020: Perucca et al., 2018).

Epilepsy can be categorized as focal, generalized or unknown in origin. As focal seizures, the level of awareness differs between individuals who have kept awareness and those who have impaired awareness. The first and most noticeable motor or non-motor manifestations of focal seizures are further classified (Dhinakaran & Mishra, 2019; Fodjo, 2020).

2.1.6.1. Partial Epilepsy:

These seizures may start in one region of the brain, spread, and then become generalized. Approximately less than 60% of focal seizures arise from the temporal lobe. Focal seizures are usually of different types, including complex partial and simple partial and partial with secondary generalization are the different kinds of focal seizures (Kendis et al., 2015).

According to their respective etiologies, partial seizures are also divided into two groups by the international classification: idiopathic partial seizures, which are thought to have a genetic component, and cryptogenic/ symptomatic partial seizures, which have an acquired cause. Simple partial seizures and seizures with auras are two additional categories for partial seizures. Auras are sensations that the patient feels when seizure activity

appears as hallucinations involving the senses of sight, sound, smell, touch, or taste. A seizure may be classified as a focal aware seizure or a straightforward partial if it doesn't coincide with the aura (Stafstrom & Carmant, 2015).

Patients with epilepsy most frequently experience complex partial seizures, also known as focal onset impaired consciousness seizures (a disorder that effects of brain cells). They typically only last a minute or two and are harmless. However, they could be odd or unsettling. In the case of a complex partial seizure, seizures occur as a result of an increase in electrical energy in the brain, so the mutation occurs in one side of the brain and in a specific area. It is called partial because only one part of the brain is affected. Simple partial seizures affect a small part of the brain. These seizures can cause twitching or a change in sensation, such as a strange taste or smell (Jauhari et al., 2019).

During this type of seizure, the epileptic patient may be unable to control movements or speak. After that, might not remember anything. A complex partial seizure can happen to anyone, and doctors don't always know why. They are frequently associated with a type of epilepsy known as temporal lobe epilepsy. They may also be more common in people who have had a stroke or a head injury, or who have other health issues such as a brain infection or a tumor (Thijs et al, 2019).

2.1.6.2. Generalized Seizure:

A generalized seizure occurs when abnormal electrical activity causes a seizure in both halves (hemispheres) of the brain at the same time and usually begins with the patient's awareness of an aura, which could be a smell,

sound, taste and other sensation. This is followed by the onset of convulsions in the epileptic stage. This recurrently involves tonic (head, trunk, or extremity expansion or flexion) followed by motor jerking, clonic, rhythmic jerking of the extremities (Silbergleit & Vonderschmidt, 2014).

When epileptic children become unconscious, the period of unconsciousness seeing a child or any other person during a seizure is very frightening for the people around them, so it is important for them to know that the child during a major seizure is unconscious and unaware and does not know what is happening to him. It is possible that they suffer from abnormal symptoms before a general epileptic seizure occurs, and this alerts them to the onset of the seizure if this happens. Therefore, the people around them must move them to a safe place, even if the patient is sitting on the ground, because this warning or aura is the beginning of a seizure in one part of the brain before spreading to the entire brain (Pardhi, & Varade, 2020; Pack., 2019).

Seizures that are widespread generalized seizures are classified into six types based on clinical symptoms and electroencephalogram (EEG) abnormalities: absence, myoclonic, tonic-clonic (or clonic-tonic clonic), atonic, tonic, and clonic. The first three (absence, myoclonic, and tonic-clonic) are linked to IGE (Brodie et al., 2018).

Absence seizures are most common during childhood or adolescence. Patients experience an abrupt cessation of activity and a brief loss of consciousness lasting 3-15 seconds, which often goes unnoticed, with the exception of brief staring spells, eyelid flutter, or minor automatisms that

depend on the duration of the seizure. The child is unresponsive and has no recollection of the seizure (Verrotti et al., 2015).

Myoclonic seizures the second seizure type associated with idiopathic epilepsy is myoclonic seizures, which commonly occur during adolescence. They are distinguished by sudden, brief, arrhythmic jerks, primarily in the arms but also involving other extremities. These seizures could be related to a fall. Usually, there is no obvious loss of consciousness. Myoclonic seizures typically occur in the early morning, shortly after waking up. They may be triggered by photic or sensory stimulation, or by a lack of sleep (Clarke et al., 2021; Operto et al., 2020).

Tonic seizures are seizures in which the muscles stiffen. A sudden increase in muscle tone could cause a person to fall while standing. This is referred to as a drop attack by some. Seizures that are generalized tonic may it also causes a sudden contraction or stiffness in the muscles of both arms. In the nature of seizures, it usually lasts from 20 seconds and lasts up to 60 seconds, and the nature of these seizures can be focal (Louis & Cascino, 2016).

Atonic seizures (sometimes called drop attacks) these seizures result in a loss of muscle tone, causing the individual to become limp. A person who is standing will fall due to a sudden loss of muscle tone. As a result, both tonic seizures and atonic seizures can be associated with episodes known as drop attacks. These seizures could also have a focal onset (Fernández-Ávalos et al., 2020).

Clonic seizures are characterized by jerking movements of the arms and legs on one or both sides of the body, sometimes accompanied by

numbness or tingling. If the seizure is focal (partial), the person may be conscious of the events going on. A person may be unconscious during a generalized seizure (Sarmast et al., 2020).

The most severe form of epileptic seizure, tonic-clonic seizures, also known as grand mal seizures, are characterized by an abrupt loss of consciousness, stiffness and shaking of the body, and occasionally loss of bladder control or tongue biting (johnson, 2019).

A tonic-clonic seizure lasts one to three minutes on average, but can last up to five minutes. If the seizures last more than 5 minutes or occur repeatedly without a break, the person could be going to experience a life-threatening medical emergency and needs immediate medical care (prajapati et al., 2020).

These classifications presently reflect our improved understanding of seizures and seizure types, provide clear guidelines for health care professionals, and allow for a more accurate analysis of how a person is affected and where the seizure begins (Scheffer et al.,2017).

2.1.6.3. Unclassified seizures

A seizure may be unclassified because there is insufficient information to place it in the focal, generalized, or unknown onset categories. This is possible if it was not observed at the start and if the results of investigations (such as EEG and imaging) are not yet available. This type usually occurs in the early stages of diagnosis (Lüders et al., 2019).

2.1.7. Symptoms of epilepsy:

Seizures can have various effects on children depending on which part of the brain is involved. Seizures are the most common symptom of all types of epilepsy; however, the full range of epilepsy symptoms and signs varies. Some seizures cause the shake and jerk of body fit, while others cause problems such as loss of consciousness or strange sensations. Seizures can happen to children with epilepsy whether they are awake or asleep. Sometimes feeling very tired can be caused by something (Cappelletti et al, 2020).

Almost all seizures are relatively brief, most seizures last for some minutes, children may have: headache, numbness or tingling and trembling in the extremities, confusion, sore muscles, unusual sensations (taste, smell, etc.), extreme tiredness, loss of bowel or bladder control, staring softly, not responding, performing repetitive movements, biting the tongue, unconsciousness. In most children, seizures occur unpredictably at any time (e.g., during sleep) or in relation to external precipitants such as lack of sleep, missed meals, emotional stress, menstruation, alcohol ingestion (or alcohol withdrawal), use of certain drugs, a small number of people with epilepsy you have seizures caused by flashing or flashing lights (DIN, 2019).

The symptoms of seizure such as convulsing limbs and sudden fall, another health problem facing people with epilepsy they are suffers from seizure-related injuries. The most common were lacerations of the skin/ soft tissues, injuries of the tongue and soft tissues of the mouth, minor head injuries and dental injuries with tooth loss (Horaib et al., 2021).

2.1.8. Risk Factors of Epilepsy:

There are various aspects that can effect of children and cause epilepsy such as, brain tumor or head trauma, circulatory and metabolic disorders such as cerebral anoxia, hypocalcaemia, hypoglycemia and other risk factors are toxicity of drugs and infection and some drugs, Neonatal seizure, Febrile seizure, Traumatic brain injury, Genetic, Attention deficit hyperactivity disorder (ADHD), Mental retardation, Asphyxia, Cerebral palsy. CNS infection, Hydrocephalus, Central nervous system malformation (Mansy et al., 2012; kwong et al., 2016).

2.1.9. Diagnosis (Medically).

The first stage in the assessment process is to obtain a complete and accurate medical history from the patient and their family. A physical examination is also conducted, particularly a neurological examination. An electroencephalogram is another frequently sought test. The gold standard for identifying epilepsy is typically EEG (Minardi et al.,2019; Kaski & Cockerell., 2015).

EEG-trained neurologists can identify the existence of epilepsy by analyzing waveforms that are typical of seizures. The human brain's electrical activity is also measured by the EEG. It could influence the seizure types, such as focal or generalized epilepsy, and it could also characterize the patient's epilepsy syndrome (Camfield and Camfield, 2015).

The scan of MRI is one of the most important examinations that evaluate brain function, and there is another examination that is magnetic resonance (CT). Technology is frequently used to provide additional information, with the latter known to offer the most information regarding

the neuroanatomic abnormalities linked to the seizures (Mohammed & Al-Ogaili, 2019).

Numerous diseases that cause recurrent seizures but are not thought to be epilepsy exist. These include single seizures, febrile seizures, neonatal seizures, provoked seizures (seizures brought on by acute brain injuries, drug or alcohol toxicity or withdrawal, or metabolic insult), and febrile seizures. Without a detailed patient history or previous diagnosis documented, it can be challenging to distinguish between epilepsy and non-epilepsy in the presence of seizures; this is particularly true when conducting epidemiological studies in situations where records are missing (Stafstrom et al., 2021).

2.1.10. Medical Management (Treatment)

The majority of those with epilepsy in developed countries (60 –70%) have their seizures under control with antiepileptic drugs, but there are other choices available for those who cannot manage their symptoms with medication (Ropper et al., 2014)

The WHO estimates that in developed nations, about 50% of patients with chronic conditions take their prescribed medications as directed; in developing areas, such as the Middle East, this percentage is even lower. There may be a connection between epilepsy patients' failure to follow a proper medication schedule and accounts of high rates of uncontrolled symptoms in the Middle East (WHO, 2010).

The first line of treatment for epilepsy is typically drug therapy after a precise diagnosis, clarification of potential differential diagnoses, and a

determination to proceed with a particular therapy. Because the chosen medication only prevents or lessens seizures in the sense of symptom prophylaxis, drug treatment is never curative. Drug therapy does not effectively address the underlying cause of epilepsy. The majority of epileptic patients respond well to medication, and based on the epilepsy syndrome, they can achieve seizure-free status with either mono therapy or combination therapy (Brückner, 2020).

The majority of epileptics can go seizure free by taking one anti-seizure medicine, also known as an anti-epileptic drug. Others may benefit from taking a number of medicines in order to lessen the frequency of episode's and severity of the seizures (Calvert et al., 2018).

There are many anticonvulsants available for the treatment of seizures, though those from more recent and modern generations are comparable to those from earlier generations in terms of their anticonvulsant effects. As a result, a decision must be made based on potential interference and interaction profiles and taking each patient's unique circumstances into consideration (Lezaic et al., 2019).

The major antiepileptic drugs, which are effective in treating both focal and generalized epilepsies, include carbamazepine (tegretol), valproic acid (depakin), levetiracetam (keppra), lamotrigine (lamictal) and topiramate (topamax). The most essential therapies for treating epilepsy are those mentioned above. There are extra options for controlling seizures, including the ketogenic diet, epilepsy surgery, and vagus nerve stimulation (Barrett & Saguil, 2018).

Many children with epilepsy who do not have epilepsy symptoms can eventually stop taking their medications and live a seizure-free life. Many adults can stop taking their medications after two or more years of no seizures. The doctor will advise you on the best time to stop taking medications (Karthika, 2020).

Also, there is another option for treatment, which is represented by Vagus Nerve Stimulation (VNS), whose function is to prevent the sudden rise of impulses, which causes seizures. Deep Brain Stimulation is a method of treating uncontrollable seizures by stimulating the brain with electrodes. Vagal nerve stimulation is a procedure that has gained popularity in the treatment of intractable partial and secondary generalizing seizures (Suller Marti, 2022)

Another treatment choice is mainly focused on dieting. The Ketogenic Plan is a high-fat diet that should only be followed under a dietician's guidance. The ketogenic diet is a low-carbohydrate, high-fat, eating plan with enough protein. It has been applied to a large number of people for more than 70 years. KD is efficient and secure, but like any therapeutic epilepsy therapy, it needs to be applied and monitored carefully (Desli et al., 2022).

An additional option for therapy Intractable epilepsy referral consideration for surgical treatment. All epilepsy patients who were potential candidates for referral for a neurologic evaluation of surgical treatment. To reduce or halt the recurrent seizures in children, surgery may involve the removal of a portion of the brain. Depending on the type of epilepsy they have and where their convulsions start in the brain, some children may be able to undergo surgery (Samanta et al.,2021)

Adults can undergo brain surgery, in which the surgeon. The surgeon removes the part of the brain where the damage occurred or divides the cerebral hemispheres of the brain to prevent seizures from spreading throughout the entire brain (Yoo & Panov, 2019).

2.1.11. Nursing Management:

A-During Epilepsy attack

Nurses Keep calm, monitor the length of the seizure attack, position the patient to maximize ventilation, also must be removed any object from the road in order to avoid self-harm and to protect the patient, something comfortable must be placed under the patient's head, avoiding putting anything in his mouth, and also avoiding moving the patient unless he is in a dangerous situation. Once the convulsion has stopped, carefully move the patient into the recovery unit and stay with them (Glauser & Loddenkemper, 2013).

B- During recovery after epilepsy attack

After a seizure, nurses should keep the patient's airway clear and give oxygen if cyanotic changes occur because this puts the patient at risk for, pulmonary aspiration, vomiting and hypoxia. The epileptic patient should be placed in a side-lying position to help with oral discharge drainage and is suctioned as necessary to maintain a clear airway and prevent aspiration. The bed is put in a low position and the side rails are raised to prevent injuries by falls. After the seizure attack, the patient might feel sleepy and want to rest and sleep. For a short while after the attack, the patient might not recall what happened before the seizure. Nurses should watch patients for toxic side effects of medicines, check serum levels for therapeutic drug ranges, and

check platelet and liver functions for risk of medication toxicity (Perucca et al., 2018; samia et al., 2019).

c- Home Safety

To make many homes or apartments secure for children who have seizures, some modifications must be made. Many of these adjustments can be made quickly and cheaply. Increased protection can be achieved with these easy fixes: Some of these suggestions and precautions should be taken by parents at home to safeguard their epileptic children. Note any sharp corners on furniture and counters, floors that can get slippery, or places that can get hot like fireplaces and stoves. Also, places with staircases and pools present unique concerns (Samia et al., 2019; Liu et al., 2019).

• General Precautions- A thick pile carpet should cover the floors in every area to prevent injuries from falls. Additionally, cushion any edges that might be struck during a fall or seizure. Make sure there are no obstructions in any pathways.

• The Kitchen- Utilize tools with automatic off features when not in use. Try preparing on the microwave instead of the stove. If using a stove, attempt to use electric rather than gas and use the back burners to avoid burns in the event of a seizure. Glass vessels that could break should be replaced with plastic ones.

•The Bathroom- In the event of a bathroom seizure, lavatory doors ought to open outward rather than inward. Install grab bars, non-slip strips, and a shower bench. For mirrors and bathroom doors, use shatterproof glass. To avoid scalding, pay attention to the water's degree settings. Maintain a free-flowing bathtub outflow and consistently keep the tub's water level low (Puka et al.,2018: Albert et al., 2019).

2. 1.12. Epilepsy prevention:

Common protective processes can assistance reduction the incidence of epilepsy occurrence in connection with bettering hygienic conditions, which may reduce infectious endemic diseases like and CNS infections, neurocysticercosis, decrease the likelihood of brain trauma or head injury caused by auto accidents, and improve maternal and perinatal care. The prevalence of seizures in the general population may decline as a result of these crucial activities (Hampton & Benjamin, 2022).

During pregnancy it is very necessary to identify mothers at high risk, such as adolescent women, drug users, mothers with high blood sugar and blood pressure, as well as those with a history of long and difficult deliveries, and to monitor them closely during pregnancy, because infection of the fetus during pregnancy can increase the risk of epilepsy. The most frequent risk factor for seizures that can be prevented is head injury. Through safety initiatives and workplace safety measures, lives can be spared and epilepsy brought on by head trauma can be avoided (Klein & Tyrlikova, 2020).

2.1.13. Comorbidity with child epilepsy

Many children who have epilepsy also have comorbid conditions, which have a significant effect on society as well as the children. They hinder the social, cognitive, and psychological growth of epileptic children and have been found to have a greater impact on their quality of life (QoL) than seizure-related factors like remission status and epilepsy intensity (Åndell Jason, 2021)

Numerous studies have looked at the likelihood of comorbidities in epileptic children compared to the overall population or children with other

chronic illnesses. Children with active epilepsy are much more likely to suffer psychosocial and developmental comorbidities than children without the disorder, according to a general survey performed in the United States. These co-occurring disorders include autism spectrum disorder, developmental delay, ADHD, depression, and anxiety (ASD). Children with epilepsy also display lower levels of social competence and greater academic challenges than children without epilepsy (Kutluk & Danis, 2021).

Obviously there is a large percentage of children with epilepsy had at least one comorbid illness (neurological, either medical, psychiatric or developmental) documented, as opposed to high population of children in the general community. When compared to children without epilepsy, only 7% of children with epilepsy had psychiatric and developmental problems (Serra-Pinheiro et al., 2021).

Additionally, children with epilepsy who have psychiatric and developmental comorbidities use medical services like outpatient neurology appointments, trips to the emergency room, and hospitalizations more frequently, and the likelihood of such expensive use rises with the number of comorbidities. Even though psychiatric comorbidities need to be addressed and properly managed, children with epilepsy frequently lack access to mental health resources (Dagar & Falcone, 2020).

These unmet needs persist two years after the child first seizure and are more common in these children than in children without an epilepsy diagnosis. Such unmet requirements may worsen how children and society are affected by psychiatric comorbidities. In order to lessen the effects of

these psychiatric comorbidities on children with epilepsy, it is crucial to raise consciousness of them (Smith et al., 2018).

2.1.14. Parental Burden from their Child with Epilepsy.

A family with a child with a chronic illness faces a heavy burden due to the increased demands of the child and the reorganization of parental roles. Parents' perceptions of their social and psychological condition can influence the parent-child relationship. It turns out that parents need strong support their children and helps them overcome all the difficulties they face during their child illness (Khanna et al., 2015).

Another chronic burden on parents who have a disabled child is the negative attitude of society towards their child although the attitude of society and the treatment of people with disabilities has changed. Couples who raise a disabled child are often unstable, often have financial difficulties, and are often in poor health and well-being. The consequences are also different for fathers: fathers of disabled children have fewer emotional exchanges, while mothers tend to suffer more in terms of social contact. Feelings of emptiness, loneliness and rejection are more common among mothers of disabled children (Pokharel et al., 2020).

The parental burden affects the entire family, and many negative outcomes share the burden of raising a child with a neurological disorder. These consequences generally include anxiety, depression, low confidence in parenting abilities, and many behavioral problems in children (Yang et al., 2021)

One of the biggest burdens on parents is that most of them worry about their child future when they reach puberty, as well as parents' fears of disclosing that their child has epilepsy before marriage, and whether they will get a bride or a groom for their sick children, and whether they will be able to assume the responsibility of marriage in the future (Rani & Thomas, 2019).

Parental burden is likely to be increased by management difficulties, increased anxiety for the child future, behavioral problems and financial stress, and thus increased stigma associated with epilepsy. The diagnosis paved the way for parents to understand its importance as the child grows old. Parents are exposed to ridicule for having a child with epilepsy and embarrassment because of epileptic seizures, and parents of children with epilepsy. who are employers are subjected to discrimination and distinguish them from other parents. They have no child with epilepsy (Jones et al., 2019).

Since the focus is on childcare, parents cannot keep their jobs. Medical and non-medical expenses contribute significantly to the financial impact, with parents experiencing economic and social in stabling psychological burden among parent (Penovich et al., 2017).

2.1.15. Stigma with Epilepsy

Stigma is considered the most essential factors influencing the quality of life, especially among children under the age of eighteen, due to their young age and lack of cognitive and mental function, which has been proven in many previous studies (Kirabira et al., 2020).

During the childhood period of life, must make adjustments like forming identities of children, taking on more responsibility in the daily lives

and becoming independent. Adolescents with epilepsy who are in school must manage the added stress of having to cope with extra hardships and limitations brought on by their condition that could harm their growth and functioning. These extra difficulties can manifest as difficulties achieving independence, decreased academic achievement, and limitations on driving and leisure activities, as examples (Huang, 2019).

The stigma attached to epilepsy, which serves as one of the obstacles to leading a fulfilling life, is a significant issue that children (children in school age and adolescents) with epilepsy frequently confront. Stigma has been shown to exist on three separate levels: institutional, interpersonal, and internalized. In addition to being known as internalized stigma, the terms perceived stigma, felt stigma and perceptions of stigma all refer to the stigma that a person feels internally and that they attribute to their feelings, ideas, beliefs, and concerns related to being different. People with epilepsy may experience all three types of stigma, as well as its history and effects on the epileptic community (Ayar et al., 2020).

Adolescents with seizures frequently encounter stigma in their social circles, and it has a particularly negative effect at this age. Teenagers with epilepsy may experience internalized stigma as a result of these peers' unfavorable peer attitudes because they are frequently unaware of the condition and have misconceptions about it (Chakraborty et al., 2021).

Although public behavior to epilepsy have improved in last years but the social stigma continues to negatively affect the lives of patient with epilepsy. Traditional epilepsy beliefs continue to contribute to public misinformation and negative attitudes (Kirabira et al., 2018).

As a result, children with epilepsy continue to face fear of being different and discrimination as a result of their condition. Internalized stigma has been associated with lower quality of life in children with epilepsy. Internalized stigma has been linked to a poor self-concept, low self-esteem and increased anxiety and depression in children and adolescents with epilepsy (Ayar et al., 2020).

Identification school age and adolescent who are worried and concerned about their epilepsy may help identify those who are at risk of internalizing stigma, and interventions that address these fears and concerns may help lessen internalization. Due to the unpredictable nature of seizures and the chance of relapse even after a prolonged period of remission, they might still fret about having epilepsy. As a result, it might be advantageous to look at how worried individuals with childhood-onset epilepsy are about their condition, as this could have an impact on their development and functioning (Yeni et al., 2018: Huang, 2019).

Epilepsy lead to many psychological problems, such as anxiety, depression, stigma, mood disorders, feelings of guilt and shame, social isolation and suicide. The actions of other people have an impact on children who have epilepsy. When peers see CWE as different peer attitudes are particularly significant. As a result, there will be physical harassment, verbal abuse, insults, bullying, and social marginalization. Children with epilepsy are impacted by the behaviors of their close relatives. (Mula, 2019).

2.2. Quality of life: Conceptual background:

Philosophers have always been interested in the questions and issues surrounding the value of human existence, even in ancient times. Grand

thinkers have been pondering the purpose of existence and how to make it better for fifty years. This served as inspiration for the beginning of studies on quality of life and psychological well-being. Philosophy is the foundation of science, so a new theory has arisen that aims to view life closely as a distinct entity, something that mechanical models are unable to do (Francesconi et al., 2022).

There are many ways to describe quality of life, and coming up with a consensus definition has proven difficult. As a result, quality of life includes objective and both subjective indicators to assess various facets of an individual's wellbeing as well as his or her own set of values. It is regarded as a multifaceted idea that includes social, psychological, and bodily wellbeing. The WHO defines the social, psychological and physical, domains as follows: the psychological domain includes cognitive, behavioral emotional status, the social domain entails independence in daily living activities and disease symptoms (Haraldstad et al., 2019; Rozensztrauch & Kołtuniuk, 2022)

Regarding the children with epilepsy, the Previous studies suggested that environmental factors, child characteristics, and co-morbidities directly affect epilepsy outcomes more than epilepsy-specific variables. In addition, it was discovered that adolescents and children are more likely to have a poor quality of life than children with other diseases. Therefore, it is necessary to focus not only on the treatment of seizures, but also their quality of life must be constantly assessed quality of life (sajobi et al., 2017).

2.2.1. Importance of quality of life

The important changes in the range of disorders and treatments that have been seen in children and adolescents, particularly those with epilepsy,

are one reason quality of life is increasingly being considered in clinical and health-economic studies. This necessitates consideration of the long-term quality of life or subjective health of young patients, as well as the identification of the daily burden brought on by the disorder, in order to reveal potential well-being impairments at an early stage (Palmor & Gothelf., 2022).

When evaluating the efficacy of treatment as well as when determining the best course of action for specific cases, it is crucial to consider how children and adolescent feel about their health and their treatment. Aside from illnesses with high mortality rates, the illnesses that have received the most attention thus far are those that can present with abrupt crises, sometimes on a life-threatening scale, as well as illnesses whose treatment is very expensive. Diseases that are more common but less dangerous, or diseases that only last a short while, pale in contrast (Ronen et al., 2018; prajapati et al., 2020).

Also, improving the quality of life leads to improving the symptoms of the disease and reducing the suffering of the family and the child as a result of the disease, as well as reducing future complications that can occur as a result of the poor condition of the child affected by the disease (Bilgiç et al., 2018).

2.2.2. Quality of life measurements:

The measurement of quality of life divides into a number of general categories. Included in these are generic indicators, which evaluate function, distress and disability brought on by general ill health; they also enable comparisons with the general community. Examples of quality-of-life

measurements include the health of child and profile illness, the pediatric quality of life inventory and the patient quality of life. These measurements have been demonstrated to associate with disease severity, distinguish between populations who are healthy and those who have chronic illnesses, and allow comparisons among teenagers with various chronic diseases (John, 2021).

2.2.3. Quality of life with epilepsy domains

2.2.3.1. Cognitive function:

Understanding the cognitive deficits associated with epilepsy, as well as the risk factors for these deficits, is critical for appreciating the full impact of epilepsy. Also has been proven that cognitive functions are a good and important indicator for children with epilepsy to assess their quality of life. Selective attention, concentration, and the ability of children to maintain their focus are essential for the efficient completion of many tasks in life. Attention deficits are considerably common in children with epilepsy and may have far-reaching consequences because attention processes can also affect memory, language, and problem solving. Attention deficits and generalized cognitive impairment can be distinguished (Sorg et. al., 2022).

Memory complication are one of the most frequent complaints of epileptics. Memory impairment is a particularly common complaint of children with epilepsy (CWE). Memory impairment is caused by a variety of factors, including the use of AEDs. AEDs work by decreasing neuronal excitability and thus suppressing epileptic discharges; however, other neuronal networks that maintain normal neuro-cognitive functions may also be affected (Baxendale & Heaney, 2021).

Children with epilepsy Even they developed their condition later and had fewer episodes but had a lower quality of life in psychological, social, and educational domains. In comparison. This implies that, in addition to dealing with a chronic disorder, other aspects of epilepsy are associated with a lower quality of life in the psychosocial and cognitive domains. In this context, cognitive function will be defined as the ability to deal fully with information from the surrounding world, and behavior will be defined as the ability to interact with others (Rosenberg et al., 2018)

2.2.3.2. Emotional and Behavioral function

Children with epilepsy have a disproportionately high level of emotional and behavioral difficulties. A more study conducted of behavior in children 6 months during their first identified seizure found that 24.6% of the children had greater than expected rates of behavioral issues (particularly attention difficulties). This study indicates that epilepsy is a more complicated disorder that can cause behavioral disturbances in addition to seizures (Healy et al., 2018; Tolchin et al., 2020).

Verbal or behavioral aggression may occur spontaneously in a small percentage of these children with little or no provocation. Some of the children with epilepsy have spontaneous occasional aggression until now the reasons that led to the occurrence of aggression in these children are not known. The study proposed one potential causal mechanism for psychological symptoms, namely that epileptic form discharges in the brain may cause disorder of brain function, which then impact of behavior. According to the authors of another study, behavioral aggression may be caused by abnormal brain regions that produce epileptic activity or may be

exacerbated by the effects of antiepileptic drug therapy (McGonigal et al., 2021; Hansen et al., 2018).

Parents mention that their children with epilepsy, after a violent outburst of anger, aggressive and after they calm down, begin to berate themselves, for example, the say I'm a bad person. Approaches that concentrate on removing the stimulus/trigger as soon as possible or trying to remove the child from the stimulus can sometimes diffuse the child anger and outburst. These children, in our experience, do not respond to standard behavioral modification strategies or restraint alone (Guilfoyle et al. 2018).

Compared to their healthy peers, children with epilepsy are more likely to experience problems with behavior and psychiatric disorders. Early accounts discussed numerous behavioral issues in epileptic children. One research that has been published demonstrates mood swings, hyperactivity, and irritability along with a shorter attention span. Children with epilepsy were the subjects of another research that discussed their distractibility, inattention, aggression, and moodiness (Salpekar & Mula, 2019)

Another study found neuroticism, aggression, and hyperactivity to be associated with absence seizures, and aggression with complex partial seizures of temporal lobe origin. Another study found psychological disorders in 16% of children with idiopathic epilepsy, 16% of children with chronic medical conditions, and 58% of epilepsy cases linked to structural brain abnormalities, in addition to 8% of the general population (Zhao et al.,2018; zentner, 2020).

2.2.3.3. Psychosocial function

Epilepsy is considered a chronic medical condition. Previous studies have shown that people with epilepsy show characteristics associated with learned helplessness and emotional difficulties, which causes a decrease in the quality of life. further. Sleep disturbances have also been linked to epilepsy as a result of the complaint and the medication necessary for controlling the symptoms (Jacoby et al., 2015; Brigo et al.,2015; Brigo et al., 2019).

Children with epilepsy are not the only who suffer depression, but also has an impact on the careers of children who have the condition. Low self-esteem and high amounts of anxiety and depression have also been connected to epilepsy in children. It is also claimed that stigmatization can low self-esteem; however, as studies have proven, organizations supporting epilepsy patients can make them feel highly confident (Tombini et al., 2020).

One of the common concepts is the social comparison theory, as this theory explains that some people are forced to compare themselves socially with others and this comparison is according to the personal abilities and skills that distinguish each person from the other. The comparison is of two types, either descending, where the comparison is made with people who are worse off, where they continue to compare themselves with their peers who are better off than them. Furthermore, self-esteem and social comparison both negatively associate with depression (Stock, 2021; Yeni et al., 2018).

2.2.4. Impact of epilepsy on quality of life

The impact of the disease can not only be limited to physical factors, but also affects emotional, social, cognitive and behavioral factors; therefore,

it is essential to illuminate the condition of children and adolescents from their parents' perspective. Additionally, given the high prevalence of chronic illnesses in children and teenagers, including psychiatric disorders, research into the quality of life of children and adolescents is crucial (Raggi et al., 2019).

Physical, social, and mental health are just a few of the living functions that epilepsy has been shown to affect, especially in children who have uncontrolled or recurrent seizures. Children with epilepsy are more likely than children in the general population to experience emotional problems (e.g, anger, irritability, persistent sadness) as well as behavioral issues (such as social exclusion and reckless behavior). (Ali., 2012). Many studies have been conducted in most countries of the world regarding the impact of epilepsy on the quality of life of children and the results were different. Several studies have found that children aged between 7-17 years have psychological disorders and the negative effects as a result of epilepsy (Puka et al.,2018).

2.2.5. Factors effect on quality of life

Epilepsy is one of the peak shared long-lasting diseases in children, children with epilepsy have more unanswered queries regarding this illness than children with any other diseases such as (asthma and diabetes). Furthermore, children with epilepsy have been shown to struggle with daily activities, hobbies, social connection with other child, and discovery an internship child with epilepsy have weaker community abilities. As a result, children with epilepsy appear to demand more attention (Bernhard et al., 2016; Bansal et al., 2017)

According to the studies, the factors that affect the quality of life of children with epilepsy were two parts. The first part includes factors that affect the quality of life in general, such as the patient's age, gender, physical condition, educational level, socioeconomic status of the parents, the sequence of the child in the family, as well as the number of family members. The economic level of the family can have the main effect on the life of the children with epilepsy; Because the family that earns a higher income can help the child provide for his personal needs, which include treatment and procedures that help reduce the occurrence of seizures. The change in the children lifestyle and providing for their needs can be an enhancement in the quality of life, in addition to the child feeling of safety as a result of providing all the requirements that the sick child needs. In contrast to families with limited income, where studies have found that families with limited income may cause a complex impact directly and indirectly on children with epilepsy (Kaenkrai et al., 2021; Kassie et al.,2021).

The second section is the factors associated with illness that affect on quality of life among child with epilepsy that involved, the age at diagnosis of the disease and the period of illness have a major role in influencing the quality of life. A child diagnosed before two years differs in quality of life from a child diagnosed ten years ago. The demographic and clinical characteristics of the children may also affect the QoL, but results are variable from studies investigating the effects of patient age, gender, socioeconomic status, and type, frequency, and severity of seizures on QoL in epilepsy (Ughasoro et al., 2014; samia et al., 2019).

Regarding the duration of disease and treatment numerous studies have been conducted all over the world on children and adults with epilepsy

they found that adherence to medical regimes is inversely related and tends to deteriorate with continued with a disease and commitment to taking the treatment of that disease. As for children with epilepsy, studies have found that children for periods of more than 4 years were more adherent and more suffering than healthy children (Smith et al., 2018; shakya et al., 2020).

Where previous study has shown that the effect of the disease on the quality of life is higher with the duration and persistence of the disease, epilepsy worsens the child life outcomes, such as having negative impacts on emotional, cognitive, social, behavioral and overall HRQOL. Health-related quality of life is a term that refers to the effects of illness, health, and treatment on quality of life (Gogou & Cross, 2022).

The frequency seizure and type of epilepsy can be assumed that children and adolescents with more frequent and severe symptoms are more likely to adhere to their regimen. Likewise, children who have generalized or major epilepsy differ in their quality of life from children who have partial epilepsy. Previous studies have found that children who have an increase in the frequency of seizures during the month, as well as children with major epilepsy, have a worse quality of life than their peers (Aronu et al., 2021).

Also of the important factors are the extent of the child adherence to anti-epileptic treatment, adherence to treatment, daily behavior in how to take treatment, as well as the fear of possible complications of anti-epileptic treatment. In addition, the diseases associated with epilepsy are considered among the main factors affecting the quality of life of children with epilepsy because. A patient who has one disease is different from a patient who has more than one disease (Akdemir et al., 2016).

In addition to any of the above, there are other factors that can be overcome to avoid its effect on children with epilepsy, including early diagnosis, as early diagnosis of epilepsy and starting appropriate treatment can help improve the quality of life of children with this disease. Also effective treatment can have a major impact and reduce the number of epileptic seizures they experience. As well as healthy nutrition, good sleep, family support, and the necessary awareness about disease and how to deal with it, in order to improve their quality of life and reduce psychological and social stress (Riechmann et al., 2012).

Many factors affect the quality of life in children with epilepsy. Most of previous research on children with epilepsy concentrated on the neurological condition and its management. Several studies have shown that more severe epilepsy is associated with a decrease in general HRQOL. Co-morbidities in children with epilepsy substantially lower HRQOL. In evaluating the effect of the illness and its treatment on people's lives, this research focused on a few variables, such as comorbidity and epilepsy severity, that reflect important outcomes. Family health is another crucial element that can aid children in adjusting to life with a chronic illness. An earlier research found that HRQOL was higher when families were functioning better (Ferro, 2014: Mendes et al., 2017).

2.3. Wilson and Cleary Theory

The theory was relied in this study is (Wilson and Cleary) offer a health-related quality of life hypothesis (1995). Their ideal considers the influence of biological and physiological variables, which are the factors that have the least bearing on quality of life. Also, the quality of life is clearly

affected by the disease symptoms, followed by perceptions and functioning of health as overall. All of the other stages are shown to be influenced by a person's and their environment, Wilson and Cleary present an integrated theory of health-related quality of life, which includes five major concepts: functional health, symptoms, life satisfaction, social support, and general health. This theory is based on the idea that health-related quality of life is affected by various factors, including physical, mental, social and environmental health. This theory aims to determine the relationships between these factors and to develop tools to measure the quality of life related to health. This theory can be used in developing programs and plans to improve the quality of life for individuals with chronic diseases, injuries or disabilities in general. revised their health-related quality of life model. The suggested changes made clear that biological functioning is not a constant variable and fact, influenced by a person's personality as well as their surroundings. The authors believed that all non-medical elements were covered by either individual or environmental factors, so the second change proposed removing them. The final change suggested removing labels from arrows in order to not limit the relationships between the variables. For gathering information on populations around the globe, this model is commended for taking into account social, political, and environmental assessments. This model takes into account a wide range of variables that may have an impact on individual’s quality of life as overall, such as political and social influences, but it does not specifically address epilepsy conditions, it is considered unique in its treatment and properties. have provided a thorough analysis of all available health-related quality of life models (Bakas et al.,2012).

2.4. Previous studies

1. Minwuyelet et al conducted at (2022). Quality of life and associated factors among patients with epilepsy at specialized hospitals, Northwest Ethiopia.

By using a quality of life assessment tool developed by the World Health Organization, this research sought to evaluate the quality of life and related factors among adult individuals living with epilepsy. Using a methodical random sampling approach, a cross-sectional study based in an institution was carried out on 419 epileptic patients. WHOQOL-BREF, a questionnaire, was used to gather the results. The data were entered into Epi Data version 3.1 and exported to SPSS version 25 for additional analysis. Bivariate and multivariable binary logistic regression analyses were then performed to determine factors related with the dependent variable. P value 0.05 was given as the threshold of significance. According to the study findings, almost one in every two epileptic patients had a poor quality of life. Poor quality of life was significantly correlated with older age, less education, co-occurring anxiety and depression, and poorer drug adherence. The effect of diseases on patients' quality of life should be addressed by medical institutions and clinicians rather than just treating the disease itself.

2. (Kaenkrai, et al., conducted in (2021). Factors Affecting the Quality of Life in Children with Epilepsy.

The study looked at the variables influencing children with epilepsy quality of life. The goal of this descriptive, predictive research was to look into the comorbidities, family functioning, and severity of epilepsy as they relate to health-related quality of life in children with epilepsy, 90 parents of

children with epilepsy between the ages of 4 and 15 made up the group, which was collected from the pediatric neurological inpatient and outpatient wards at Bangkok Ramathibodi Hospital and Prasat Neurological Institute, Thailand. June to August 2019 saw the collection of data. The Chulalongkorn Family Inventory (CFI), the Quality of Life in Childhood Epilepsy, and other surveys were used. The demographic characteristics and medical record information of epilepsy-affected children were also collected (QOLCE-16). The results showed that epilepsy severity, comorbidity, and family functioning could forecast the overall QOLCE and were responsible for 28-40% of the variation in the overall quality of life of children with epilepsy. The findings of this research will assist nurses and medical professionals in developing interventions to better the quality of life for children with epilepsy.

3. **Kassie et al conducted at (2021). Quality of life and its associated factors among epileptic patients attending public hospitals in North Wollo Zone, Northeast Ethiopia.**

In this study, epileptic patients who were receiving treatment at public hospitals in North Wollo Zone, Northeast Ethiopia, were evaluated for their quality of life and related variables. This study used a cross-sectional institution-based study design. A simple random selection method was used. Based on the Quality of Life in Epilepsy Inventory (QOLIE-31) instrument overall value, health-related quality of life was assessed. The study showed only about half of epileptic patients have a high standard of life in terms of their health. In addition, a number of factors, such as family history, uncontrolled seizures, and bad drug adherence, were linked to patients'

quality of life. Therefore, it is advised that these factors be targeted in the treatment of epilepsy.

4. Abadiga et al conducted at (2019). Health-related quality of life and associated factors among epileptic patients on treatment followup at public hospitals of Wollega zones, Ethiopia, 2018.

This study aim was to assess patients with epilepsy who were being treated in public hospitals in Wollega zones, Ethiopia, for health-related quality of life and factors associated to it. 402 epileptic patients participated in an institutionally based cross-sectional study, and the average health-related quality of life was low. The quality of life of epileptic patients has been greatly impacted by the respondent's monthly income, living situation, adverse effects of antiepileptic medications, co-morbidity of anxiety, perceived stigma, and frequency of seizures. Therefore, to improve the quality of life for epileptic patients, it is important to identify and address drug side effects early, identify and manage comorbidity early, and control seizures.

5. Riechmann, et al. conducted at (2019). Quality of life and correlating factors in children, adolescents with epilepsy, and their caregivers: A cross-sectional multicenter study from Germany.

The study objective was to identify variables that were associated with lower quality of life (QoL) in German children and adolescent with epilepsy as well as caregiver QoL and depression. In two representative German states, a cross-sectional multicenter research on QoL and depression was conducted (Hessen and Schleswig-Holstein). 489 children and adolescent records as well as those of their caregivers were gathered. Living in a nursing home or with foster parents, concomitant diseases, recent status epilepticus,

hospitalization, missing seizure freedom, and a significant degree of disability have all been linked to lower quality of life (QoL) in children and adolescent with epilepsy. Longer illness duration, non-idiopathic (primarily structural-metabolic) epilepsy, ongoing seizures, concomitant diseases, relevant disability, or status epilepticus were all linked to caretakers' QoL being in worse shape also the result of study find the epilepsy significantly affects depressive symptoms and quality of life. The goal of early and effective treatment should be to reduce both the frequency of seizures and the likelihood that status epilepticus will occur. Additionally, comorbidities, the effects of disability, and reliance on others should be taken into consideration when providing comprehensive care. In order to improve the QoL of patients and caretakers, a second emphasis should be placed on the treatment of coexisting diseases, training, or acceptance of physical or mental impairments.

6. **PORQUE conducted at 2017 Factors associated with quality of life among children with epilepsy in iloilo city as perceived by their parents.**

The aim of this study was to define the factors that can associated with quality of life (QoL) of CWE (children with epilepsy), including CWE characteristics, parent characteristics, parental knowledge of epilepsy, and adherence to the recommended regimen. The concept of a single survey was used. In the Philippines' Iloilo City pediatric neurology clinics, there were 72 responses. The QOLCIE-55 self-administered questionnaire was used to gather the data. According to the study findings, epilepsy is common in teenage girls. Most of them reported having 0–5 seizures over the previous four months and had their first seizure episode when they were preschoolers.

Even though awareness of the disease is high, there are still misconceptions about it. Poor compliance was also shown with the recommended drug schedule. Physical QOL was poor, but cognitive, emotional, social, and overall QOL were high. Parents' sex, level of education, and monthly income affected their awareness of epilepsy, while their age only affected adherence. The QOL across all categories was well predicted by educational attainment. All categories, with the exception of emotional functioning, were impacted by the age at which the seizures began. Chronological age and overall QOL are correlated, whereas emotional, physical, and overall QOL were affected by family income. Increased awareness of the disease did not translate into greater adherence to the advised course of treatment. Both knowledge and adherence ratings had an impact on both the social domain and overall QOL. With these findings, healthcare professionals must pay heed to the QOL of CWEs and in academic institutions.

7. **We et al conducted at (2010). Quality of life and related factors in Chinese adolescents with active epilepsy**

conducting this research, a case-control study involving 47 pairs of active adolescent epileptic form patients and matched healthy controls was performed to determine the level of QOL and associated factors among adolescents with epilepsy in China. The Quality of Life in Epilepsy Inventory for Adolescents 48 (QOLIE-AD-48) in Chinese was used to assess the QOL of epileptic adolescent. The quality of life (QOL) of a control group was assessed using three categories unrelated to epilepsy (memory, concentration physical functioning, and social support). the findings of a research that The mean overall result for epileptic subjects on the QOLIE-AD-48 was 65.6-14.1 points. Adolescent patients typically had lower levels of

memory/concentration, physical functioning, and social support compared to healthy controls. Age of onset, concern about epileptic seizures, and fear of harm were all substantially. Conclusions: To improve QOL during this critical period of physical and mental growth, more consideration should be given to the psychological status of adolescents with epilepsy that is linked to their seizure frequency.

Chapter Three
Methodology

Chapter three

Methodology

The research methodology generally includes three steps, which are designing, organizing and finally implementing certain procedures in order to collect accurate and reliable data about the problem under study. However, this chapter will demonstrate the overall methods applied, starting by design of study and ending by limitations of current study.

3.1. Study Design:

A descriptive (cross sectional study) design was carried out to attain the stated objectives, during the period from December 2021 to May 2023.

3.2. Administrative Arrangements and Ethical Approval:

The administrative arrangements and ethical confirmation was fundamental and decisive part of research work, which include:

1- Protocol of research approved initially (Appendix A), as official permission from higher studies committee/ College of nursing, University of Babylon, for conducting the study.

2- Official letter attainment from Scientific and ethics research Committee in College of Nursing, who reviewed the study tools (questionnaire), and agreed to initiate the study at 13th March 2022 in specified setting.

3- Obtaining official approval from the Diwaniyah Health Department to facilitate the undertaking goals (Appendix C).

4- In the last step, an official letter was issued from the Training and Development Center in the Al Diwaniyah Health Department, and approvals were obtained from the hospital, as well as from the Specialized Neurological Center (Appendix C).

5- In addition, the consent of the parents of the children with epilepsy was obtained to participate in the study after clarifying the aims of the study and the future benefit of the study and assuring them that all the information taken from them is for the purposes of scientific research and is completely confidential (autonomy and privacy).

3.3. Setting of the Study:

The study was conducted in Al-Diwaniyah Teaching Hospital / Neurosciences Center in Al-Diwaniyah Governorate, Iraq, which is considered one of the specialized centers affiliated to the newly opened Al-Diwaniyah Teaching Hospital and administratively affiliated to the hospital. The center includes a group of patient reception suites and emergency wards, in addition to a group of counseling suites that are reviewed by a group of patients with neurological disorders in general and epilepsy patients in particular. As for the daily visits to the center, it is estimated at about 80-120 patients per day with a neurological disorder, and the annual total of epilepsy patients is estimated at about 500 children and adults.

3.4. Study sample:

Total of 106 parent of children with epilepsy. were selected through a "non-probability" (purposive) sampling technique from total visitors that

fallow up in the center of Neuroscience in Al- Diwaniyah Province were included in the existing study.

3.5. Criteria:

1- Parents of children with epilepsy who are aged of children from 6 to 18 years old and regular visits to the Neurological Center in Al-Diwaniyah Teaching Hospital.

2- Parents of children with epilepsy diagnosed before one years that had been taking anti epileptics for at least one year were the cases without association to any congenital defect or retardations.

3.6. Sample Size:

To determine the size of the study sample, a scientific and approved method should be used, based on a statistical equation to verify its validity. according to the (Steven, 2012).

$$n = \frac{N \times p(1-p)}{\left[\left[N-1 \times \left(d^2 \div z^2\right)\right] + p(1-p)\right]}$$

N= population

p= probability (0.05).

n= Sample size

d= Significance level (0.05)

z= Standard critical of 95% confidence level = 1.96

The total number of visitors (as parents with their epileptic children) to the Neurological Center during the year (2021) was 204, while the actual number of children who obligated in their visits for examinations, investigations and treatment, estimated as (155) According to Steven Thomson's above equation to calculate the sample size for the population of a known number, the total sample size in this study is (110) of the parents, of these, (4) parents were excluded from the sample for many cause, including (disability of the child such as cerebral palsy, uncompleted the questionnaires, and other causes), leaving the total number of the sample (106) parents of children with epilepsy.

3.7. Instrument of the study

The tool has been modified and developed based on a comprehensive review of the literature for the purpose of achieving the study objectives (Appendix D). It was subjected to scrutiny by the supervisor and a committee of nursing specialists in children health and other nursing specialties. There was a thorough examination of the tool's build and configuration. Instrument used consisted of four parts

Part I: Demographic Characteristic of the parents and children:

This part is concerned with the collection of basic socio-demographic characteristic of father, mother and the child. It is included that four items for fathers and mothers (age, socio-economic status, education level, occupation) and included demographic data of children involving (6) items (age, gender, residence, educational level, family number and sequence of children in the family).

Part II: contains items specifically the factors associated with quality of life among children with epilepsy.

This part is concerned with the collection of basic items such as Child age at diagnosis, Duration of illness, Type of epilepsy, Seizure frequency (during last month), Seizure duration (min), the time of the seizure, number of take antiepileptic therapy, The extent of adherence to treatment and presence of other disease.

Part III: Other important factors contain the assessment of stigma in children with epilepsy.

The third part contains an assessment of the level of stigma in children with epilepsy. The stigma scale for children with epilepsy from the parents' point of view, which consists of 10 questions designed by Austin in 1998 and modified and developed into 7 questions according to the requirements of the study and the nature of the study population. Where the questionnaire consisted of a group of questions related to the child's sense of social stigma, discrimination and lack of acceptance from his peers, and these questions were answered from the point of view of his parents

Part IV: Assessment QOL among Children with epilepsy (QOLCE 43)

The QOLCE-43 that use in this study is a modified version of the original 55-item QOLCE55 by (Goodwin et al., 2016). It has been modified and developed and presented to experts, after that, the researcher conducted the reliability and validity to ensure the validity of the questionnaire for the research. The QOLCE provides an overall assessment of parents reported QOL of children with epilepsy aged 6–18 years of age. The source of the

Arabic translation version of QOLCE-43 was (Altwaijri et al., 2020), who translated into Arabic version and worked in the Kingdom of Saudi Arabia.

The QOLCE 43 items was divided into 4 sections:

Section 1: The child cognitive functioning that consisted of 17 items.

Section 2: The child emotional functioning that consisted of 13 items.

Section 3: The child social functioning that consisted of 7 items.

Section 4: The child physical functioning that consisted of 6 items.

The questioner is adopted and developed to assess quality of life and associated factors among children with epilepsy. The questionnaire sheet is also completed during interview of parent with children. The study purpose

Rating and scoring

The assessment of QOL of CWE (QOLCE 43), was also used a three-point Likert scale is used to rate items as follows: Always =3, sometimes =2; never =1 for negative question also the scoring of quality of life for the positive question (20, 21,22,29,39,40,41,42,43) the (Always =1; sometimes =2; never =3). The QOLCE is a specific measure for quality of life in children with epilepsy from a parent's point of view. Depended on the Likert scale, scoring of the level of quality of life as well as the level of stigma were assessed for children with epilepsy was done as:

"low" (mean of score= 1-1.66).

"moderate" (mean of score= 1.67-2.33).

"high" (mean of score = > 2.33).

3.8. Validity of the study instrument

The validity of an instrument refers to its ability to collect the data for which it was designed. The face validity for the early developed questionnaire is determined through the use of panel of experts to investigate clarity, relevancy, and adequacy of the questionnaire to measure the concepts of interest. A preliminary copy of the questionnaire is designed and presented to (15) experts, who have more than 10 years of experience in the medical and nursing profession, (Appendix B). according to Creswell, (2014) has mentioned that the panel typically consist of at least three experts, but a larger number may be advisable if the construct is complex.

3.9. Pilot study

A pilot study is conducted on a purposive sample (10) parents of children with epilepsy conducting at Al Diwaniyah teaching hospital/ Neuroscience center. The pilot study is conducted from 3 to 14th of July, 2022.

The purposes of the pilot study are:

1.To identify the respondents' understanding of the questions asked to them, as well as the acceptability of the questions on the questionnaire form.

2.To demonstrate the internal consistency and reliability of the scales that were used in this study.

3.Determine the time required to answer the questions directed to the respondents.

The results of pilot study:

1 The results that emerged from the pilot study found ease of understanding and clarity of the contents and vocabulary of the questionnaire.

2- The average time needed to answer all the questions of the questionnaire was 20-25 minutes for each respondent.

3.10. Reliability of the study instrument

Reliability is concerned with the consistency and dependability of a research instrument to measure a variable of interest. Determination of reliability of the scales is based on the internal consistency reliability (Alpha Cronbach technique) as shown in (table 3.1).

Table (3.1) Reliability Coefficient of the Studied scale

Reliability Coefficients		Standard Lower Bound	Actual Values	Assessment
QOLCE-43	**Internal Consistency Cronbach Alpha**	**0.70**	**0.81**	**Accepted**
Stigma	**Internal Consistency Cronbach Alpha**	**0.70**	**0.82**	**Accepted**

The calculated results of the questionnaire show that all the studied scales (QOLCE-43 and stigma) are reliable to study the phenomenon on the same population at any time in the future (Creswell, 2014).

3.11. Data collection

Each child and their parents were seen individually in their follow-up consultations in the neurology consultation at the Neurological Diseases Specialist Center in Al-Diwaniyah Teaching Hospital, and the researcher attended the consultation ward. To complete the questionnaire and clarify

any queries, there by making sure that the questionnaire items are not misunderstood. The duration of the interview for each person ranged from 20 to 25 minutes. Data collection method (July 30 to December 29, 2022).

3.12. Data Analysis

The IBM SPSS Statistics 25 program was used to compute means, frequencies, and assessment of QOL and associated factors included (stigma and other factors) among children with epilepsy, as well as mean scale scores. To identify if there were any significant association between various personal demographics, e.g. (age, gender, residence, family income, level of education, occupation, family number, sequence of children in family).

3.13. The Statistical Approach

The data was converted into calculated data, that is converted into numbers, and it was ensured that there were no missing data, and it was included in the Microsoft office Excel 2010 program, where it was arranged and transferred to the SPSS program, version No. 25, to analyze these results statistically. As a final results presented for study accomplishment.

3.13.1. Descriptive Data Analysis:

This analysis was achieved by the computation of the following:

A. Frequencies: In statistics, the frequency of occurrences refers to the number of times an event occurred in a study or experiment. It's used to describe the distribution of the demographic variables in the sample.

B. Percentages (%): It's calculated by dividing the frequency of participants in a category by the total number of participants and multiplying by 100%.

C. Mean of score (MS): The mean in statistics is the arithmetic average of a set of numbers. The average is calculated by adding two or more scores and

then dividing the total by the number of scores. It is used to measure the centrality of the data

D. Standard Deviation: The standard deviation is a measurement of a population variance. When the standard deviation is low, it suggests that everyone is near to the average. If the standard deviation is high, it means that each person is fairly unique and not too close to the average. It expresses the average amount of value departure from the mean.

3.13.2. Inferential Data Analysis

These were utilized to accept or reject the statistical assumption that made up the statement.

A. Reliability Coefficients: (Cronbach's Alpha) It is use for estimating the reliability of questionnaire (internal consistency) of the study tool.

B. This approach is performed through the following methods:

A. Chi-square. The chi-square analysis is used to examine the independency and the link between the study variable.

Simple linear regression is used to estimate the relationship between two variables. the simple linear regression is a test that can do just that. was used in our study to measure relationship between Stigma and QOL of children with epilepsy.

3.14. Limitation of study

1. weakness of awareness of some parents for health issues which caused difficulty in collecting information.
2. Many epilepsy children used to refer to private clinics, and few of them referred to the neurological center.

3. The lack of treatment in most of the time in the center leads to leakage of patients to private clinics and lack of commitment to scheduled follow up because they do not benefit for free despite their weak economic situation

Chapter Four
Results and Findings

Chapter Four

Results and Findings

Table 4.1: Father Characteristic Distribution (n=106)

Father Characteristic	Rating and Interval	Frequency	Percentage
Age / Years Mean± SD 41.32 ± 8.07	≤ 34	26	24.5
	35 – 44	41	38.7
	45 – 54	34	32.1
	55+	5	4.7
Levels of Education	Doesn't Read and Write	10	9.4
	Primary School	35	33
	Secondary School	34	32.1
	College and above	27	25.5
Occupation	Employee	53	50
	Unemployed	53	50

Table (4.1) show statistical distribution of study sample (Father Characteristic) by their socio-demographic data, it explains that the highest percentage of the father age subgroup are: fathers with ages between (35- 44) years old (38.7%), those are graduated in primary school (33 %), while half of them were employed and the other half is unemployed.

Table 4.2: Mother Characteristic Distributions (n=106)

Mother Characteristic	Rating and Interval	Frequency	Percentage
Age / Years Mean± SD 36.51 ± 7.16	≤ 24	2	1.9
	25 – 34	43	40.6
	35 – 44	45	42.5
	45+	16	15.1
Levels of Education	Doesn't Read and Write	22	20.8
	Primary School	28	26.4
	Secondary School	39	36.8
	College and Above	17	16
Occupation	Employee	23	21.7
	Unemployed	83	78.3

Regarding mothers, the majority of mother's age between (35-44) years (42.5 %), those are graduated in secondary school (36.8 %), those who are (unemployed) housewives (78.3 %).

Table 4.3: Family Characteristic Distributions (n=106)

Family Characteristic	Rating and Interval	Frequency	Percentage
Economic Status	Sufficient	10	9.4
	Somewhat Sufficient	29	27.4
	Insufficient	67	63.2
Residence	Urban	60	56.6
	Rural	46	43.4
Family Number	3 - 5	81	76.4
	6 – 8	22	20.8
	9 +	3	2.8

This tables shows that the majority of family have insufficient monthly income (63.2 %), those who live in urban areas (56.6 %). The family number high percentage (76.4%) (3-5).

Table 4.4: Child Characteristic Distributions (n=106)

Child Characteristic	Rating and Interval	Frequency	Percentage
Age / Years Mean± SD 11.27 ± 2.65	6 – 10	47	44.3
	11 – 15	51	48.1
	+16	8	7.5
Gender	Male	56	52.8
	Female	50	47.2
Levels of Education	Doesn't Read and Write	14	13.2
	Primary School	68	64.2
	Secondary School	24	22.6
Sequence of the Child in the Family	1st	41	38.7
	2nd	26	24.5
	3rd	21	19.8
	4th	12	11.3
	5th	4	3.8
	6th	2	1.9

Table (4.4) show the statistical distribution of children by their demographic data, it explains that the highest percentage of the children subgroup are: those age between (11-15) year (48.1%), more than half are a male (52.8%), with most of them in primary school as a level education (64.2%). The sequence of the Child in the Family among his siblings in rank first (38.7%).

Table 4.5: Statistical Distribution of Factors Associated with Quality of Life of Children with Epilepsy (n=106)

Childe Factors	Rating and Interval	Frequency	Percentage
Child Age at Diagnosis	≤ 3	11	10.4
	4 – 6	45	42.5
	7+	50	47.2
Duration of Illness	< 3	31	29.2
	3 – 5	41	38.7
	> 5	34	32.1
Type of Epilepsy	Generalized	67	63.2
	Local	39	36.8
Seizure Frequency (last month)	Non	28	26.4
	1– 4	69	65.1
	> 4	9	8.5
The Time of the Seizure	Wake	37	34.9
	Sleep	21	19.8
	Both	48	45.3
Number of Antiepileptic Therapy	Once	19	17.9
	Twice and More	87	82.1
Adherence to Treatment	Adherent	54	50.9
	Not Adherent	52	49.1
Other Disease	Yes	13	12.3
	No	93	87.7
Type of other Disease	DM	2	1.9
	Asthma	4	3.8
	Sinusitis	1	0.9
	ADHD	2	1.9
	Blood Disease	1	0.9
	Neurological Disorder	2	1.9
	Psychological Distress	1	0.9

This table show the statistical Distribution of Factors Associated with Quality of Life of Children with Epilepsy, with regard to the child Age at diagnosis the largest percentage was for (47.2%) is seven years or more. As for the duration of illness in the child, 38.7% of the sample were diagnosed with the disease in age between 3-5 years. As for the type of epilepsy in children, the majority of them had generalized epilepsy, and their percentage was (63.2%). As for the Seizure Frequency during the last month, the majority of the sample had 1-4 times during the month and their percentage was 65.1%. As for the time of the seizure, the majority of children 45.3% had seizures during sleep and also during wakefulness. As for number of antiepileptic therapy was taken, it was 82.1 % of them take treatment twice and more in day. with regard to adherence to treatment, as more than half of the sample were committed to taking the treatment (50.9%). As for other diseases, the majority of the sample had no other diseases, and their percentage was (87.7%).

Table 4:6: Descriptive Statistics of Assessment level for Stigma among Children with Epilepsy

Items		Never	Some Times	Always	MS	Asses.
1. He believes that people who know about his condition they deal with him differently.	Freq.	7	40	59	2.49	High
	%	6.60	37.74	55.66		
2. He has problems in developing relationships with his peers due to presence of an epileptic seizure.	Freq.	2	43	61	2.56	High
	%	1.89	40.57	57.55		
3. He thinks the others would rather not be with him because of the seizure.	Freq.	17	39	50	2.31	Moderate
	%	16	36.8	47.2		
4. He feels embarrassed about the seizure occurs	Freq.	12	35	59	2.44	High
	%	11.32	33.02	55.66		

5. He feels ashamed of telling others about his epileptic seizure.	Freq.	5	57	44	2.37	High
	%	4.72	53.77	41.51		
6. He thinks other people are uncomfortable with him because of the seizure condition.	Freq.	11	50	45	2.32	Moderate
	%	10.4	47.1	42.5		
7. He believes that having an epileptic seizure leads to stigma to others.	Freq.	23	37	46	2.22	Moderate
	%	21.7	34.9	43.4		

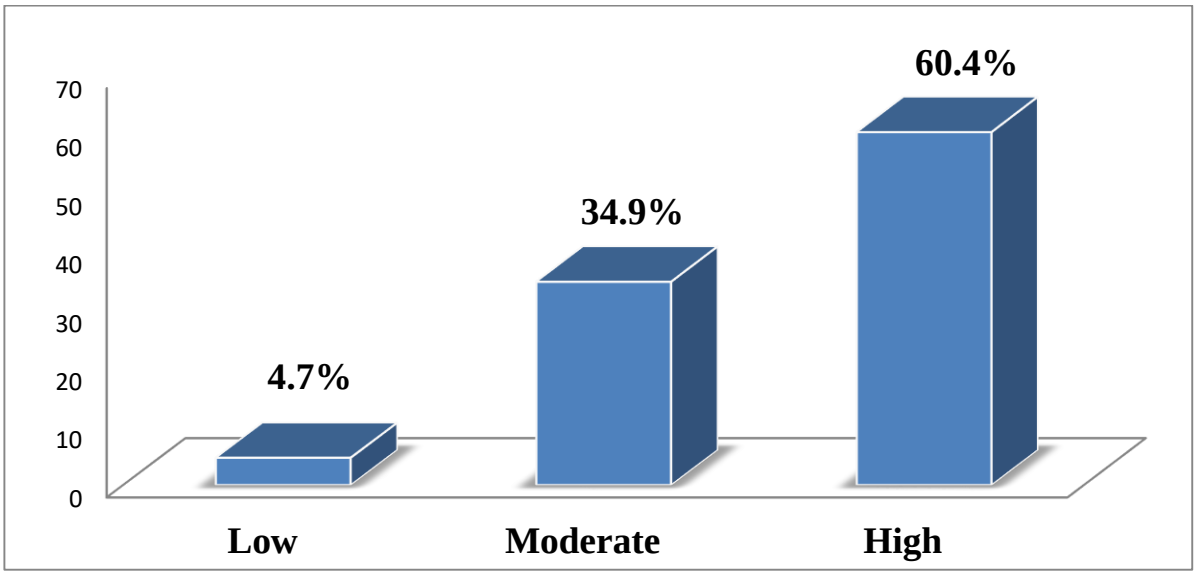
MS : Mean of Scores ; low : MS = 1-1.66 ; Moderate : MS = 1.67-2.32 ; High : MS ≥ 2.33

Table 4:7: Overall Assessment the Level of Stigma for the study subjects

Stigma Level		**Low**	**Moderate**	**High**	**MS**	**Assess**
Overall	Freq.	5	37	2.38	2.38	**High**
	%	4.7	34.9	60.4		

MS: Mean of Scores; low: MS = 1-1.66; Moderate: MS = 1.67-2.32; High: MS ≥ 2.33

This table (**4:6) (4:7)** shows the overall assessment of social stigma for children with epilepsy. It is clear from the results shown in the table that children with epilepsy have a high level of social stigma.



(Figure.4:1) Overall Assessment of Stigma Level.

Table 4:8: Descriptive Statistics for Assessment of Cognitive Function Domain

Items		Never	Some Times	Always	MS	Asses
1. Had difficulty doing something?	Freq.	8	47	51	2.41	High
	%	7.55	44.34	48.11		
2. Had difficulty solving problems?	Freq.	4	63	39	2.33	High
	%	3.77	59.43	36.79		
3. Had difficulty keeping track of conversations?	Freq.	20	57	29	2.08	Moderate
	%	18.87	53.77	27.36		
4. Had difficulty concentrating when reading?	Freq.	6	48	52	2.43	High
	%	5.66	45.28	49.06		
5. He had difficulty in completing each work separately?	Freq.	1	36	69	2.64	High
	%	0.94	33.96	65.09		
6. Slow reactions to what is said or done in front of him	Freq.	9	52	45	2.34	High
	%	8.49	49.06	42.45		
7. He found it difficult to remember things?	Freq.	5	50	51	2.43	High
	%	4.72	47.17	48.11		
8. He found it difficult to remember people's names?	Freq.	14	58	34	2.19	Moderate
	%	13.21	54.72	32.08		
9. He had difficulty remembering what was said to him?	Freq.	14	51	41	2.25	Moderate
	%	13.21	48.11	38.68		
10. Had trouble remembering things s/he read hours or days before?	Freq.	5	63	38	2.31	Moderate
	%	4.72	59.43	35.85		
11. Planned to do something then forgot?	Freq.	1	59	46	2.42	High
	%	0.94	55.66	43.40		
12. Had trouble finding the correct words?	Freq.	24	37	45	2.20	Moderate
	%	22.64	34.91	42.45		
13. He found it difficult to understand what was being said to him.?	Freq.	16	44	46	2.28	Moderate
	%	15.09	41.51	43.40		
14. Had trouble understanding directions?	Freq.	62	20	24	1.64	Low
	%	58.49	18.87	22.64		
15. Had difficulty following instructions?	Freq.	8	51	47	2.37	High
	%	7.55	48.11	44.34		
16. Had trouble understanding what s/he read?	Freq.	0	38	68	2.64	High
	%	0.00	35.85	64.15		
17. Had trouble writing?	Freq.	13	45	48	2.33	High
	%	12.26	42.45	45.28		

MS : Mean of Scores ; low : MS = 1-1.66 ; Moderate : MS = 1.67-2.32 ; High : MS ≥ 2.33

Table 4:9: Descriptive Statistics for Assessment of Emotional Function Domain

Items		Never	Some Times	Always	MS	Asses.
1. Felt down or depressed?	Freq.	11	58	37	2.25	Moderate
	%	10.38	54.72	34.91		
2 .Worried a lot?	Freq.	5	26	75	2.66	High
	%	4.72	24.53	70.75		
3. Felt confident?	Freq.	11	60	35	2.23	Moderate
	%	10.38	56.60	33.02		
4. Felt excited or interested in something?	Freq.	4	64	38	2.32	Moderate
	%	3.77	60.38	35.85		
5. Felt pleased about achieving something?	Freq.	5	56	45	2.38	High
	%	4.72	52.83	42.45		
6. Felt no one understood him/her?	Freq.	12	60	34	2.21	Moderate
	%	11.32	56.60	32.08		
7. He feels that no one cares about him?	Freq.	21	53	32	2.10	Moderate
	%	19.81	50.00	30.19		
8. was socially inappropriate (he said or did something inappropriate).	Freq.	10	43	53	2.41	High
	%	9.43	40.57	50.00		
9. He got angry fast?	Freq.	21	32	53	2.30	Moderate
	%	19.81	30.19	50.00		
10. Hit or assault someone?	Freq.	25	50	31	2.06	Moderate
	%	23.58	47.17	29.25		
11. Insulting or cursing in public?	Freq.	18	64	24	2.06	Moderate
	%	16.98	60.38	22.64		
12. Was obedient?	Freq.	32	43	31	1.99	Moderate
	%	30.19	40.57	29.25		
13. Was demanded a lot of attention?	Freq.	2	51	53	2.48	High
	%	1.89	48.11	50.00		

MS : Mean of Scores ; low : MS = 1-1.66 ; Moderate : MS = 1.67-2.32 ; High : MS ≥ 2.33

Table 4:10: Descriptive Statistics for Assessment of Social Function Domain

Items		Never	Some Times	Always	MS	Asses.
1.Limited his/her social activities (visiting) friends, close relatives, or neigh bours?	Freq.	0	63	43	2.41	High
	%	0.00	59.43	40.57		
2. Affected his/her social interactions at school or work?	Freq.	13	52	41	2.54	High
	%	12.3	49.1	38.7		
3.Limited his/her relaxation activities (hobbies or interests)?	Freq.	6	48	52	2.43	High
	%	5.66	45.28	49.06		
4. Isolated him/her from others?	Freq.	3	44	59	2.53	High
	%	2.83	41.51	55.66		
5. Made it difficult for him/her to keep friends?	Freq.	3	54	49	2.43	High
	%	2.83	50.94	46.23		
6. Frightened other people around him?	Freq.	11	54	41	2.28	Moderate
	%	10.4	50.9	38.7		
7. During the past 4 weeks, how limited are your child social activities compared with others his/her age because of his/her epilepsy or epilepsy-related problems	Freq.	10	47	49	2.37	High
	%	9.43	44.34	46.23		

MS : Mean of Scores ; low : MS = 1-1.66 ; Moderate : MS = 1.67-2.32 ; High : MS ≥ 2.33

Table 4:11: Descriptive Statistics for Assessment of Physical Function Domain

Items		Never	Some times	Always	MS	Asses
1. Needed more supervision than other peers his/her age?	Freq.	25	26	55	2.28	Moderate
	%	23.6	24.5	51.9		
2. Played freely in the house like other peers his/her age?	Freq.	43	38	25	2.17	Moderate
	%	40.6	35.8	23.6		
3. Playing or sleeping outside the house with friends and relatives?	Freq.	23	27	56	2.31	Moderate
	%	21.7	25.5	52.8		
4. Gone swimming (i.e.swam independently)?	Freq.	20	22	64	2.42	High
	%	18.9	20.8	60.4		
5. Participated in sports activities (other than swimming)?	Freq.	22	33	51	2.27	Moderate
	%	20.8	31.1	48.1		
6. Been able to do the physical activities other peers his/her age do?	Freq.	36	5	65	2.27	Moderate
	%	34	4.7	61.3		

MS : Mean of Scores ; low : MS = 1-1.66 ; Moderate : MS = 1.67-2.32 ; High : MS ≥ 2.3

Table 4:12: Descriptive Statistics of Overall Domains

Main Domain		Responses			MS	Asses.
		Low	Moderate	High		
Cognitive Domain	Freq.	3	43	60	2.31	**Moderate**
	%	2.8	40.6	56.6		
Emotional Domain	Freq.	0	64	42	2.26	**Moderate**
	%	0	60.4	39.6		
Social Domain	Freq.	0	39	67	2.38	**High**
	%	0	36.8	63.2		
Physical Domain	Freq.	3	42	61	2.28	**Moderate**
	%	2.8	39.6	57.5		
Overall Quality of Life	Freq.	0	54	52	2.30	**Moderate**
	%	0	50.9	49.1		

This table show the assessment of each part of the quality of life is displayed by calculating the mean, it is clear from the results that the highest mean was (2.38), which is for social functions, and means that the social functions of the child are good and he has a high quality of life in this part. As for the lowest mean, it was (2.26), for the emotional functions, and this means that the quality of life in this part is moderate, as shown by the general assessment of the quality of life of children with epilepsy. It is clear from the table that there is a moderate quality of life for children with epilepsy at an overall rate.

Table 4:13: Association between Stigma and children QOL with epilepsy

Model	Unstandardized Coefficients		Standardized Coefficients	**T**	**Sig.**
	B	Std. Error	Beta		
Stigma	0.102	0.048	0.206	2.142	**0.035**

This table shows that there is a significant relationship between the quality of life of children with epilepsy and social stigma

Table 4:14: Association between the QOL and demographic data of children with epilepsy

Factors Associated	**Statistical Measurement**	**QOL**
Child Age	Chi-square	9.745
	Df	4
	Sig.	**0.04**
Gender	Chi-square	6.001
	Df	2
	Sig.	**0.05**
Level of Education	Chi-square	0.296
	Df	4
	Sig.	0.99
Sequence of the Child in the Family	Chi-square	9.631
	Df	10
	Sig.	0.47

In this table reveals the Relationship between the QOL and demographic date of children with epilepsy و the table reveals there is a significance relationship between Child Age with epilepsy and quality of life while there are significance at P-value (0.04) , while there are significance at P-value (0.05) with gender, There is no significant relationship between the educational level of the child and the quality of life, and there is also no significant relationship between the child sequence in the family and the quality of life.

Table 4:15: Relationship between the QOL and associated factors among children with epilepsy

Factors	Statistical Measurement	
Child Age at Diagnosis	Chi-square	10.404
	Df	4
	Sig.	**0.034**
Duration of Illness	Chi-square	7.281
	Df	4
	Sig.	1.12
Type of Epilepsy	Chi-square	2.829
	Df	2
	Sig.	0.24
Seizure Frequency	Chi-square	9.774
	Df	4
	Sig.	**0.04**
Time of the Seizure	Chi-square	7.924
	Df	4
	Sig.	0.09
Number of Antiepileptic Therapy	Chi-square	3.439
	Df	2
	Sig.	0.17
Adherence to Treatment	Chi-square	5.650
	Df	2
	Sig.	**0.05**
Other Disease	Chi-square	5.038
	Df	2
	Sig.	**0.008**

This table show the relationship between the quality of life and the associated factors among children with epilepsy, where it was found that there is a significant relationship between some factors and the quality of life, and also that no relationship between other factors and the quality of life. Through the table it is reveals that there is a significant relationship at (0.034) between the quality of life and the age of the child of diagnosis. There is also a significant relationship between seizure frequency and quality of life at (0.04). There is also a significant relationship at (0.05) between adherence to treatment and quality of life. The table also shows that there is a significant relationship at (0.008) between comorbidities and life expectancy for children with epilepsy.

Table 4:16: Relationship between demographic data of father with QOL of children with epilepsy

Demographic Data	Statistical Measurement	QOL
father Age	Chi-square	3.142
	Df	6
	Sig.	0.79
Level of Education	Chi-square	6.413
	Df	6
	Sig.	0.37
Occupation	Chi-square	7.094
	Df	2
	Sig.	**0.02**

This table shows the relationship between the demographic characteristics of the father and the quality of life of the child with epilepsy. There was a significant relationship between the quality of life of the child with epilepsy and the father occupation, while there was no relationship between the quality of life, the age of the father and the educational level.

Table 4:17: Relationship between demographic data of mother with QOL of children with epilepsy

Demographic Data	Statistical Measurement	QOL
Mothers Age	Chi-square	6.967
	Df	6
	Sig.	0.32
Level of Education	Chi-square	16.242
	Df	6
	Sig.	**0.013**
Occupation	Chi-square	10.744
	Df	2
	Sig.	**0.005**

This table shows the relationship between the demographic characteristics of the father and the quality of life of the child with epilepsy. There was a significant relationship between the quality of life of the child with epilepsy and the Level of Education of mother, and there is significant relationship between the quality of life and Occupation of mother, while there is no relationship between the age of the mother and the quality of life among child with epilepsy

Table 4:18: Relationship between Family Characteristic with QOL of children with epilepsy

Family Characteristic	Statistical Measurement	QOL
Economic Status	Chi-square	2.899
	df	4
	Sig.	0.57
Residence	Chi-square	0.44
	df	2
	Sig.	0.81
Family Number	Chi-square	10.29
	df	4
	Sig.	**0.03**

This table shows the relationship between the family characteristics of the and the quality of life of the child with epilepsy. There was a significant relationship between the quality of life of the child with epilepsy and the Family Number.

Chapter Five
Discussion of the Result

Chapter Five

Discussion of the study result

Through the relevant articles with a logical interpretations and organized around the study goals.

5.1 Socio-demographic characteristics of the study sample.

According to (Tables 4-1.2.3.4), show a statistical distribution children and adolescents with their parents by their socio-demographic data.

The results show that the highest percent of the age of the as subgroups of father are: those who aged (35 – 44) years old with two fifth of study sample. Their education was primary school (one third of study sample), while half of them were employed and the other half is unemployed.

Regarding the mother characteristics; their ages between (35-44) years (two fifth of study sample), graduated from secondary school (one third of study sample), and unemployed as (more than three quarters of study sample).

Regarding the family characteristic shows that the family have insufficient monthly income was (less than two thirds of study sample), the cause may be majority of families of children with disabilities, such as epilepsy and others, suffer from a high and additional financial burden on the family, due to the high cost of living, recurrent visits medical care, necessary treatments for epilepsy, and many other financial needs that increase burden the family of children with epilepsy. also those who live in urban areas (More than half of study sample). This has been supported by many previous studies like (Mohammed and Al-Ogaili, 2019). Which mentioned that most of the

families of children with epilepsy were in a limited financial condition in addition to found that the majority of participants lives in urban area. The family number high percentage (3-5) (More than three quarters).

The statistical distribution of children by their demographic data which explains that the highest percentage of the children subgroup are: those age between (11-15) year was a little less than half of them. Regarding their genders, males were the dominant gender among children with epilepsy, the males had the highest percentage was a more than half in the study sample, where this result agree with the results shown by the study (El azizi, 2020), which showed that the percentage of males in this study is (66.30%). With regarding the level of education most of them in primary school as a level education was a less than two thirds. The Sequence of the child in the family that the first was a near two fifth of study sample.

5.2. Factors associated with quality of life among children with epilepsy

Several articles consider certain factors associated with influencing on quality of life. It classified into two types, the first is related to the quality of life, such as demographic factors, while the second related to the disease factors. Among these factors is the age of the child at diagnosis which have a great effect on their quality of life that proved in previous studies, as well as the frequencies of seizures that frustrate the children and effect on their QOL negatively. Seizures frequencies is considered one of the most important factors that lead to a poor quality of life. In addition, among the influencing factors is non-adherence with anti-epileptic drugs, the type of epilepsy and the duration of the disease; QOL was low in children with

partial seizures. (Riechmann et al., 2019; Aronu et al., 2021; Cosar& Dayapoglu, 2020; Agung, et al., 2022; Kaenkrai et al., 2021).

Moreover, among the basic and very important factors affecting the quality of life is social stigma, which is considered an important and major factor in impairing the quality of life of affected children (Anguzu, et al.,2021). The study population of parents with a low educational levels still feel that epilepsy is a social stigma that affects their normal life practice as well as their specific social relationships with other families and their children, as it is considered one of the factors mainly related to their quality of life.

Concerning the age of the child at the time of diagnosis at (Table 4.5) indicate largest percent of the sample, and those diagnosed during seventh year or more were more than one-fifth of the study sample also the reason may be due to the nature of the demographic data of the sample and as global statistics generally indicate that the diagnosis of epilepsy is more common in childhood and adolescence, about 60% of epilepsy cases are diagnosed in childhood and adolescence also this result agree with results shown by Pachange et al in (2021), Who studied the quality of life of school children and found that the majority of the age of epilepsy diagnosis is in school ages over 10-years . As for the duration of the epilepsy among respondents, near the two fifth of them were the duration of their illness ranged from (3-5 years), and this percent is considered the largest in the sample of study, as for the duration of epilepsy in children, it can vary greatly depending on the underlying cause and the effectiveness of treatment. While some children may outgrow their epilepsy, others may require ongoing treatment throughout their lives. and these results are agree with a study Shakir & Al-

Asadi (2012), who showed that two fifth of the targeted population had a disease duration of less than five years. As for the type of epilepsy in children, the majority of them suffer from generalized epilepsy and their percent was less than two thirds of study sample. One of the possible causes may be negligence and non-adherence to treatment, which may lead to damage in neurons of the all area of brain, while partial epilepsy occurs due to abnormal operation of a specific region of the brain. This result agrees with Pachange et al (2021). Which found that the type of generalized epilepsy in more than two thirds of children. Regarding the seizure frequency during the past month, the majority of the sample was from (1-4) times during the month, and their percentage was less than two thirds. This result agrees with Honari et al (2021) who mentioned (that the recurrence of seizures during the last month varied from 1 to 5 times, and the highest rate of recurrence of seizures was 3 times per month, at percent of more than two fifth. The reasons for the varying incidence of epileptic seizures in children differ from one case to another. In general, the variation in the occurrence of epileptic seizures in children can be due to multiple factors, the most important of which are age, the cause of epilepsy, and other environmental and social factors. Therefore, children with epilepsy need a comprehensive evaluation to reduce the discrepancy in the occurrence of epileptic seizures. As for the seizure at time occur, more than two fifth of children had seizures during sleep as well as during wakefulness. Whereas the number of antiepileptic that were taken the Majority of them were taking treatment twice or more per day this result agrees with Hussain et al (2020). Through his study on children with epilepsy to determine their quality of life, it was found that more than two fifth of the children participating in the study take the prescribed medication twice a day to avoid the occurrence of seizure .Taking treatment at the prescribed time

and dose is vital for patients with epilepsy, as it helps control seizures and reduce their recurrence. Thus, patients' quality of life can be improved and side effects of treatment can be reduced with regard to adherence to treatment, more than half of the children with epilepsy committed to taking the treatment. This result agrees with Agung et al (2022). Finally, the presence of other diseases, the majority of the children had no other diseases, and their percentage was in the Majority of sample. This result agrees with Taylor et al (2011). Which showed through the importance of his study that the quality of life is directly affected by comorbidity diseases and reduces the quality of life for epileptic children

5.3. Discussion of stigma assessment for children with epilepsy

Stigma can be one of the most common factors associated with epilepsy and the most distressing psychological consequences of seizures, along with the unpredictability of future seizures. The impact of stigma on the lives of children with epilepsy is far reaching, often including effects on peer relationships, overall health and overall quality of life (Şengül & Kurudirek, 2022)

Through the two tables (4:6) (4:7) and figure (4.1) the study finding show that there is a high level of stigma in general of all questions related to stigma during epilepsy, as well as the overall assessment of felt stigma and more than half of the study sample showed an assessment high level of stigma among children with epilepsy, and about more than one third had a moderate level felt of stigma. The reason for the high level of stigma among children with epilepsy is due to the negative view of the children with epilepsy, the community fear of this disease, Therefore, the child with

epilepsy suffers from social prejudice and social misunderstanding. Where epilepsy remains a societal burden on the children with epilepsy in particular, and a distinctive feature of their identity. It remains a major concern for many people and families as well as the child himself. Where this result agrees with the results shown by the study (Aydemir et al in 2016), Who found that stigma was at a high level for more than half of the participants in the sample. Also, the results of study agree with the results of study (Bielen et al in 2014), which showed that the percentage of males in this study ranged between (53%) reported feeling stigma, with 136 (45%) mild to moderate.

5.4. The quality of life domain assessment:

The measurement of QOL is an essential part of the therapeutic care of any disease condition, and enhancing QOL is one of the top priorities for medical professionals. Many studies explored QOL assessments and the factors influencing QOL outcomes in CWE. These studies' finding consistently show that children with epilepsy are prone than other children to have lower quality of life (Bompori et al., 2014; Moreira et al., 2013).

The results of this study to assess the quality of life for epileptic children (school age and adolescent), when discussing each part separately from the other, show that with regard to the cognitive functions part, it was found that the assessment of cognitive functions is moderate level for children with epilepsy, The cause may be to the majority of cognitive function in children with epilepsy are affected by a variety of interrelated factors, including early onset of epilepsy, frequency, severity and duration of seizures, along with antiepileptic drug treatment and this result is agree with the study conducted in the Republic of Egypt on children with epilepsy, their

quality of life was evaluated from the point of view of their parents (EL Nabawy et al in 2022), which showed that the cognitive functions of children with epilepsy are moderate level. and also other agreement with study in Iran (2021) by (Honari et al), which found that the cognitive functions of a sample of Iranian patients with epilepsy were of moderate level.

As for the emotional functions part, it was found that the assessment of emotional functions was moderate for children with epilepsy. The possible justification may be due to anxiety and the psychological state as well as low self-confidence that the child feel through epilepsy, as well as the accompanying negative feelings that are generated as a result of the seizure, as well as the result of the societal view of the epileptic children, also this results agree with the result of the study (Maha et al., in 2020), that was conducted at the Ain El Shams Center in Egypt to assess the health-related quality of life, which included 75 children with epilepsy, and which found that epilepsy affects the quality of life, especially in the emotional and social domains.

As for the part of social functions, it was found that the assessment of social functions was high level for children with epilepsy. The fear of seizures occurring in front of people and the unwillingness to socialize for fear of discrimination and the fear of a danger to the epileptic patient and people's lack of acceptance of the patient leads to the weakening of social functions. Also chronic diseases, like epilepsy considered a major risk factor for all child patients in general and for the poor psychosocial in particular and the results agree with the result of the study (Tegegne et al.,2014), that conducted in Ethiopia that assess Quality of life, which showed that social functions were rated more than moderate for people with epilepsy.

As for the part of the physical functions, it was found that the assessment of the physical functions was moderate level for children with epilepsy, the cause may be the fear of a seizure is one of the most important things that accompanies a person's thinking of children with epilepsy. Therefore, parents should always be supervised when performing activities and events to prevent the occurrence of any risk associated with a seizure. As a result, children physical functions decrease to reduce the chances of a seizure occurring. In the present results are agree with the result of the study (Pachange et al. in 2021), conducted on middle and high school children and study included 16 schools in which physical functioning was found to be at more risk than other domains of quality of life.

As for the overall quality of life assessment, it was found that the quality of life assessment was moderate level for children with epilepsy. The reason for this is the lack of control of seizures, in addition to the side complications associated with the disease, as well as the stigma and disability associated with it. In addition to many of the factors mentioned above, children with epilepsy have a lower quality of life as a result of altered consciousness, behavior, motor activity, and autonomy, therefore comprehensive care must go beyond only attempting to manage seizures. CWE are dealing with a number of issues that could impact their treatment plan, including the nature of the disease, a lack of medical supplies, medication, parents who are unaware of the condition, and a lack of follow-up. These children' physical, social, and emotional health are all impacted by these issues, which has an impact on their quality of life (QOL), this agree with study conducted in rural areas of southern India for children with epilepsy, which found that the overall quality of life for children with

epilepsy was moderate level (Sruijana et al., 2017). Also this results agree with the result of the study (Nikolić and Rogač. 2019), which was conducted to assess the quality of life of children with epilepsy, where it was found that the quality of life for all participants at a lower level due to their suffering from anxiety, depression and low self-confidence. Also, the results of study agree with the results shown by the study (EL Nabawy & Abdelgawad) in the year (2022), which showed that the quality of life of children with epilepsy Parent prospective which showed that children with epilepsy have a moderate or less quality of life.

5.5. Association between stigma and quality of life for children with epilepsy

(Table 4:13) Show that the quality of life among children with epilepsy and stigma are significant relationship. It is possible that the reason for this stigma of children with epilepsy can interfere with their social activities because children feel discriminated against in society, and they feel blame, rejection and exclusion. Thus, stigma has a great relationship with the children quality of life. Also, the findings of this study agree with the results shown by the study (Anguzu et al) in the year (2021). The study was conducted in Uganda region on adolescents with epilepsy and one of its objectives is to assess the relationship between the quality of life of adolescents with social stigma during epilepsy.

Therefore, many previous studies have shown that there is a relationship between quality of life and stigma associated with epilepsy, as many aspects of life are affected by epilepsy. Epilepsy threatens the health security of the affected child, as well as fear of seizures, anxiety about the

psychological and social consequences of the seizure, and stigma associated with a diagnosis of epilepsy leads to social isolation, and all of this leads to stigma and a lack of quality of life for a child with epilepsy (Boling et al., 2018).

5.6. Relationship between the quality of life and demographic data of children with epilepsy

With regard to the relationship between the age of the child and the quality of life, it revealed found that there is a significant relationship between QOL and the age of the child with epilepsy. It is possible that older children are more likely to experience negative effects on general health and life as well as negative attitudes towards epilepsy and may be because cognitive functions are in a state of development and they think of how others see them. The results of study agree with the results shown by the study (Nadkarni et al) in (2019). Also The results of the epilepsy council of the UK in 2011 supports of this study, because with advance age, the problems of adapting to daily activities increase, and also the social problems of children with epilepsy increase, including the feeling of isolation from the environment and the external environment, and this is a major factor that reduces the quality of life.

As for the relationship between children gender and quality of life, our study found a statistically significant relationship between QOL and gender for children with epilepsy. Gender is important factor of QoL. Despite many reports of poor quality of life related to health, mostly among women in developed countries of the world. However, it is not yet understood the role that gender plays in huge in general. Also the females and males in general, there are different aspects of daily life to deal with epilepsy because it is

possible that females are interested in the social, psychological and biological aspects. Also epidemiological research suggests that gender has an impact on epilepsy susceptibility and prognosis. but this difference is rarely statistically significant. The results of our study agree with the results shown by the study EL Nabawy & Abdelgawad in (2022).

While this study did not find the statistically significant relationship between the educational level of the child and the sequence of the child in the family with the quality of life among children with epilepsy this result agree with (Rozensztrauch & Kołtuniuk ,2022).

5.7. Relationships between the quality of life and associated factors among children with epilepsy.

As for table (4:15) show that there is a significant relationship between the age of the child at diagnosis and the quality of life, it is possible that the reason is due to the fact that when the older the age the child was more aware of the disease and with advance of age lead to increase psychological and social consequences that lead to a weakening of the quality of life, the results of our study agree with the results shown by the study (Kassie et al) in the year (2021). Which appears that there is a statistically relationship between the quality of life and the age of the child at the time of diagnosis.

While this study not find a significant relationship between the other factors (duration of the epilepsy, type of epilepsy) with the quality of life, and the results of this study agree with the results shown by the study (Norsa'adah et al) in the year (2013), which did not find a relationship between the duration of the epilepsy and type of epilepsy with the quality of life among children with epilepsy.

With regarding the seizure frequency with QOL show that statistically significant relationship between quality of life and frequency of seizures. The frequency of seizures is an important factor that has a negative effect on the QoL in epilepsy children and leads to a weakening of the psychological status and increase anxiety level about the future seizures status and the consequences associated with them. Also agree with study in in Basrah, Iraq by Shakir and Al-Asadi in (2012). Where it was found that the seizures frequency in patients with epilepsy has a significant impact on the quality of life. Also, the results of this study confirm that there is no statistically significant relationship at p value 0.05 between the time of the seizure and number of antiepileptic therapy with the quality of life in children with epilepsy and these results are consistent with many studies conducted previously and showed similar results (Mosaku et al in the year (2006).

With regard to adherence of treatment, the results showed that statistically significant relationship between treatment adherence and the quality of life for epileptic children. The reason is due to the fact that the more adherence to the treatment, the less the occurrence of seizures, and thus the better the quality of life. These results are consistent with the study (Alsous et al) in the year (2018), also this is the first study in Jordan that investigated adherence to antiepileptic drugs in children and adolescents, which found that 55.6% were adherent to treatment, and find the relationship between quality of life and adherence of treatment.

With regard to comorbidities, the results showed that there is a relationship between comorbidities and the children quality of life, the reason is that comorbidities may increase additional burdens on child with epilepsy and lead to lowering quality of life, and therefore, it is natural that most of

the studies that were conducted that appears the statistically relationship between comorbidities and the quality of life. Among these studies that agree is the study that was conducted in Thailand to determine the factors affecting the quality of life epileptic children, including the severity of epilepsy as well as comorbidities (Kaenkrai et al., 2020).

5.8. Relationship of father demographic data with quality of life for children with epilepsy

Regarding the (Table 4:16) the study finding that there is no statistically significant relationship between quality of life and the age of the father, as well as between the educational level of the father and the quality of life for children with epilepsy, and it is consistent with the results of an Egyptian study conducted on children and adults with epilepsy, which did not find a relationship between quality of life and educational level (Saleh et al., 2021).

Also, this study showed that there is a statistically significant relationship between the father's occupation and the quality of life, and these results agree with the study (EL Nabawy et al., 2022). In general, the occupation of the father and his role in the family have a significant impact on the quality of life for children with epilepsy, and can help improve their emotional and physical health and enhance their chances of achieving success in school and life in general, through the financial return of the occupation and also the occupation can be a burden on the child because the father is busy with the job, and this is reflected in the quality of life of the children with epilepsy.

5.9. Relationship of mother demographic data with quality of life for children with epilepsy

As regarding the table (4:17) The results of this study find the significant relationship between the (education level, occupation) with quality of life among children with epilepsy, it is possible that the reason is that mothers with a higher level of education can have a better knowledge of the disease and how to manage it, and thus they can provide the necessary support for children affected by it. Moreover, mothers with a higher level of education can have better communication skills with doctors and mental health professionals, and mothers with a higher level of education can have better skills in dealing with advanced effects of disease and providing emotional and psychological support to children, which can lead to Improving the quality of health care for children with epilepsy. This result differs with other study (Nagarajan, 2018), in which the researcher evaluated the health-related quality of life in children with epilepsy, who used the same scale used in this study. Therefore, this study did not find a statistically significant relationship between the demographic of parents, especially mothers, with the quality of life the reason is that the researcher chose a small sample consisting of only 40 children with epilepsy.

5.10. Relationship between Family Characteristic with quality of life for children with epilepsy

Regarding with Table (4:18) the relationship of the quality of life with the economic status and residence, which indicate not find any statistically significant relationship, and these results are consistent with a previous study that showed similar results, which is the study (Fayed ,2015).

While this study result that there is a statistically significant relationship between the number of family members and the quality of life for epileptic children, this is due to the large burdens forced by the number of children in one family and the provision of the necessary needs for living. This result differs with studies that did not find a relationship between this variable and the quality of life for epileptic children (Asadi et al., 2021), it is one of the studies that dealt with the social aspects of life in relation to epilepsy.

Chapter Six
Conclusions and Recommendations

Chapter Six

Conclusions and Recommendations

6.1. Conclusions:

Based on the findings of the study, researcher can make the following conclusions:

1. The study concluded that less than half of the sample were diagnosis with epilepsy when they were over seven years old, also one third of the sample duration of illness had 3-5 years and general epilepsy among the sample was less than two thirds, in addition to less than two thirds of the sample had seizure frequency 1-4 times during the month. The majority of the sample took the treatment twice, and also more than half of the sample had adherence to take the treatment and the majority of the sample had no disease comorbidity.
2. The study showed a moderate level of quality of life assessment among children with epilepsy and high level of stigma.
3. The study found that the significant relationship between some associated factors and the quality of life among children with epilepsy such as (child age at diagnosis, seizure frequency, adherence to treatment, disease comorbidities).
4. The study found that there are some demographic factors for parents and children effect the quality of life among children with epilepsy such as (occupation of parents, level of education of mother also the family number).
5. The study found a statistically significant relationship between quality of life and stigma, which is considered one of the most important factors affecting the quality of life of children with epilepsy.

6-2- Recommendations

Based upon the results of the study the following recommendations as the following:

1. Improving the quality of life for children with epilepsy by focusing on improve their physical, emotional, social, cognitive functions of children by involving them in school events or special activities like their healthy peers, and educating their teachers by observing them remotely and indirectly.

2. The educating parents about epilepsy and its effects on the quality of life should be part of the treatment protocol.

3. Creating awareness and educational programs for parents and children with epilepsy about the disease and how to deal with it and associated stigma through radio and television as well as social media.

4. Collaboration between Ministry of Education and Ministry of Health by enhancing the role of school health workers to develop educational programs specially and suitable to students with epilepsy enable them to continue education in school without hindrance.

5. Preparing a trained healthcare professional in the neuroscience centers to deal efficiently of children with epilepsy and early detection associated of psychological illnesses comorbidities.

6. warning the children with epilepsy and education of parents about conditions that trigger seizures, including extreme exercise, highly emotional events, and some types of foods.

Reference

Abadiga, M., Mosisa, G., Amente, T., & Oluma, A. (2019). Health-related quality of life and associated factors among epileptic patients on treatment follow up at public hospitals of Wollega zones, Ethiopia, BMC Res Notes 12:679.

Abd El-Mouty, S. M., & Salem, N. M. (2019). Burden and quality of life among caregivers to children with epilepsy. Am J Nurs Res, 7, 817-23.

Abdel-Mannan, O., Taylor, H., Donner, E. J., & Sutcliffe, A. G. (2019). A systematic review of sudden unexpected death in epilepsy (SUDEP) in childhood. Epilepsy & Behavior, 90, 99-106.

Abdulkareem, A. G. (2021). Epilepsy and Child History in Dr. Jamal Ahmad Rashid Pediatric Teaching Hospital Sulaymaniyah/Iraq. science, 2021, 11.

Abuga, J. A., Kariuki, S. M., Abubakar, A., Kinyanjui, S. M., van Hensbroek, M. B., & Newton, C. R. (2022). The burden of neurological impairments and disability in older children measured in disability-adjusted life-years in rural Kenya. PLOS global public health, 2(2), e0000151.

Abuga, J. A., Kariuki, S. M., Kinyanjui, S. M., Boele van Hensbroek, M., & Newton, C. R. (2021). Premature mortality, risk factors, and causes of death following childhood-onset neurological impairments: a systematic review. Frontiers in neurology, 12, 627824.

Ackermann, S., Le Roux, S., & Wilmshurst, J. M. (2019). Epidemiology of children with epilepsy at a tertiary referral center in South Africa. Seizure, 70, 82-89.

Agung, R. N., Kariasa, I. M., Masfuri, M., Sofiani, Y., & Kamil, A. R. (2022). Factors Affecting the Quality of Life of Epilepsy Patients. KnE Life Sciences, 447-459.

Akdemir, V., Sut, N., & Guldiken, B. (2016). Factors affecting the quality of life in drug-resistant epilepsy patients. Acta Neurologica Belgica, 116(4), 513-518.

Al Kiyumi, H., Al-Huseini, S., Mirza, H., Al Balushi, N., Al-Risi, K., Al Toubi, A., ... & Al-Adawi, S. (2021). Depressive Symptoms and Its Correlate Among Children with Epilepsy at Single-center Study in Oman. Oman Medical Journal, 36(6), e329.

Al-Aameri, K. K. J., & AL-Mayahi, N. Y. S.(2022). Correlation between epilepsy risk factors and type of seizures in children. International Journal of Health Sciences, 6(S3), 5980- 5989.

Albert, D. V., Moreland, J. J., Salvator, A., Moore-Clingenpeel, M., Haridas, B., Cole, J. W., ... & Patel, A. D. (2019). Seizure action plans for pediatric patients with epilepsy: a randomized controlled trial. Journal of child neurology, 34(11), 666-673.

Al-Dossari, K. K., Al-Ghamdi, S., Al-Zahrani, J., Abdulmajeed, I., Alotaibi, M., Almutairi, H., ... & Alhatlan, O. (2018). Public knowledge awareness and attitudes toward epilepsy in Al-Kharj Governorate Saudi Arabia. Journal of family medicine and primary care, 7(1), 184.

Ali, S. A., & Al-Qadi, A. S. (2017). Factors affecting quality of life for patients with cerebrovascular accident in middle euphrates neuroscience center in Al-Najaf Al-Ashraf city. Research Journal of Pharmacy and Technology, 10(6), 1944-1950.

Ali, M. (2012). Investigating the Use of Medicines in Management of Children and Young People with Epilepsy Using Data from Primary Care in the UK (Doctoral dissertation, University of Nottingham).

Alsous, M, Hamdan L, Saleh M, James M , Horne R, Masri A (2018). Predictors of non-adherence in children and adolescents with epilepsy: A multi-method study investigating influence of beliefs about treatment. Research article| volume 85, p205-211.

Altwaijri, W. A., Yahya, B. J., Alasmari, L. B., Alsultan, R. N., Alsuhaibani, S. M., Alsemih, R. M., & Moukaddem, A. K. (2020). Quality of life in paediatrics with intractable epilepsy in a large paediatric university hospital in Riyadh, Saudi Arabia. Journal of Family Medicine and Primary Care, 9(11), 5523.

Åndell Jason, E. (2021). Neurodevelopmental and psychiatric comorbidities negatively affect outcome in children with unprovoked seizures—A non-systematic review. Acta Paediatrica, 110(11), 2944-2950.

Anguzu, R., Akun, P., Katairo, T., Abbo, C., Ningwa, A., Ogwang, R., ... & Idro, R. (2021). Household poverty, schooling, stigma and quality of life in adolescents with epilepsy in rural Uganda. Epilepsy & Behavior, 114, 107584.

Anwar, H., Khan, Q. U., Nadeem, N., Pervaiz, I., Ali, M., & Cheema, F. F. (2020). Epileptic seizures. Discoveries, 8(2).

Aronu, A., Uwaezuoke, N., Chinawa, J., Bisi-Onyemaechi, A., & Ojinnaka, N. (2021). Health-related quality of life in children and adolescents with epilepsy in Enugu: Need for targeted intervention. Nigerian Journal of Clinical Practice, 24(4), 517-517.

Aryal, S., & Jha, A. (2020). Quality Of Life in Epilepsy Patients: A cross sectional study. Journal of Psychiatrists' Association of Nepal, 9(1), 59-63.

Ayar, D., Bektas, M., Ünalp, A., Edizer, S., Yalçintuğ, F. M., & Güdeloğlu, E. (2020). The association between seizure self-efficacy of children with epilepsy and the perceived stigma. Epilepsy & Behavior, 110, 107141.

Aydemir, N., Kaya, B., Yıldız, G., Öztura, I., & Baklan, B. (2016). Determinants of felt stigma in epilepsy. Epilepsy & Behavior, 58, 76-80.

Bakas, T., McLennon, S. M., Carpenter, J. S., Buelow, J. M., Otte, J. L., Hanna, K. M., ... & Welch, J. L. (2012). Systematic review of health-related quality of life models. Health Qual Life Outcomes, 10(1), 134.

Balestrini, S., Arzimanoglou, A., Blümcke, I., Scheffer, I. E., Wiebe, S., Zelano, J., & Walker, M. C. (2021). The aetiologies of epilepsy. Epileptic Disorders, 23(1), 1-16.

Bansal, D., Azad, C., Gudala, K., &, A. Dasari (2017). Predictors of health related quality of life in childhood epilepsy and comparison with healthy children: findings from an Indian study. Turkish Journal of Medical Sciences, 47(2), 490–498.

Barrett, J. P., & Saguil, A. (2018). Cochrane for Clinicians: Antiepileptic Drug Monotherapy for Epilepsy. American Family Physician, 97(9), 572.

Baxendale, S., & Heaney, D. (2021). Memory complaints in the epilepsy clinic. Practical Neurology, 21(1), 25-29.

Beghi, E. (2020). The epidemiology of epilepsy. Neuroepidemiology, 54(2), 185-191.

Berg, A. T., Berkovic, S. F., Brodie, M. J., Buchhalter, J., Cross, J. H., van Emde Boas, W., ... & Scheffer, I. E. (2010). Revised terminology and concepts for organization of seizures and epilepsies: report of the ILAE Commission on Classification and Terminology, 2005–2009.

Berg, A. T., Nickels, K., Wirrell, E. C., Geerts, A. T., Callenbach, P. M., Arts, W. F., ... & Camfield, C. S. (2013). Mortality risks in new-onset childhood epilepsy. Pediatrics, 132(1), 124-131.

Bernardo, P., Cinalli, G., & Santoro, C. (2020). Epilepsy in NF1: a systematic review of the literature. Child Nervous System, 36(10), 2333-2350.

Bernhard, M. K., Syrbe, S., Nickel, P., Neininger, M. P., Merkenschlager, A., Kiess, W., Bertsche, T., & Bertsche, A. (2016). Epilepsy & Behavior Epilepsy in children and adolescents : Disease concepts , practicalknowledge,andcoping.59,77–82.

Bhushan, R., Ravichandiran, V., & Kumar, N. (2022). An overview of the anatomy and physiology of the brain. Nanocarriers for Drug-Targeting Brain Tumors, 3-29.

Bielen, I., Friedrich, L., Sruk, A., Prvan, M. P., Hajnšek, S., Petelin, Ž., ... & Jacoby, A. (2014). Factors associated with perceived stigma of epilepsy in Croatia: A study using the revised Epilepsy Stigma Scale. Seizure, 23(2), 117-121.

Bilgiç, A., Işık, Ü., Çolak, R. S., Derin, H., & Çaksen, H. (2018). Psychiatric symptoms and health-related quality of life in children with epilepsy and their mothers. Epilepsy & Behavior, 80, 114-121.

Bompori, E., Niakas, D., Nakou, I., Siamopoulou-Mavridou, A., Tzoufi, MS. (2014). Comparative study of the health-related quality of life of children with epilepsy and their parents. Epilepsy Behavior, 41,11-1http://refhub.elsevier.com/S1525- 5050(17)30708-4/rf00757

Brigo, F., Igwe, S. C., Ausserer, H., Tezzon, F., Nardone, R., & Otte, W. M. (2015). Epilepsy-related stigma in European people with epilepsy: Correlations with health system performance and overall quality of life. Epilepsy & Behavior, 42, 18

Brodie, M. J., Zuberi, S. M., Scheffer, I. E., & Fisher, R. S. (2018). The 2017 ILAE classification of seizure types and the epilepsies: what do people with epilepsy and their caregivers need to know?. Epileptic Disorders, 20(2), 77-87.

Brückner, K. E. (2020). Cognitive and Psychological Side Effects of Antiepileptic Drugs. In Epilepsy-Update on Classification, Etiologies, Instrumental Diagnosis and Treatment. IntechOpen.

Calvert, S., Barwick, K., Par, M., Tan, K. N., & Borges, K. (2018). A pilot study of add-on oral triheptanoin treatment for children with medically refractory epilepsy. European Journal of Paediatric Neurology, 22(6), 1074-1080.

Camfield, P., & Camfield, C. (2015). Incidence, prevalence and etiology of seizures and epilepsy in children. Epileptic disorders, 17(2), 117-123.

Cappelletti, S., Tondo, I., Pietrafusa, N., Renzetti, T., Pannacci, I., Gentile, S., ... & Vigevano, F. (2020). Improvement of quality of life in adolescents with epilepsy after an empowerment and sailing experience. Epilepsy & Behavior, 106, 106957.

Chakraborty, P., Sanchez, N. A., Kaddumukasa, M., Kajumba, M., Kakooza-Mwesige, A., Van Noord, M., ... & Koltai, D. C. (2021). Stigma reduction interventions for epilepsy: a systematized literature review. Epilepsy & Behavior, 114, 107381.

Chemnitz, E. (2020). An 8-year longitudinal assessment of health-related quality of life in children with epilepsy.thesis in The University of Western Ontario

Chen, H., & Koubeissi, M. Z. (2019). Electroencephalography in epilepsy evaluation. CONTINUUM: Lifelong Learning in Neurology, 25(2), 431-453**.**

Choi, H. Y., Kim, S. E., Lee, H. W., & Kim, E. J. (2016). Social behavioral problems and the health-related quality of life in children and adolescents with epilepsy. Psychiatry Investigation, 13(5), 488.

Cianchetti, C., Messina, P., Pupillo, E., Crichiutti, G., Baglietto, M. G., Veggiotti, P., ... & TASCA study group. (2015). The perceived burden of epilepsy: impact on the quality of life of children and adolescents and their families. Seizure, 24, 93-101.

Clarke, S., Karoly, P. J., Nurse, E., Seneviratne, U., Taylor, J., Knight-Sadler, R., ... & D'Souza, W. (2021). Computer-assisted EEG diagnostic review for idiopathic generalized epilepsy. Epilepsy & Behavior, 121, 106556.

Creswell, J. W. (2014). Research Design: Qualitative, Quantitative and Mixed Methods Approaches (4th ed.). London: Sage Publications Ltd.

Dagar, A., & Falcone, T. (2020). Psychiatric comorbidities in pediatric epilepsy. Current Psychiatry Reports, 22(12), 1-10.demon'.

Desli, E., Spilioti, M., Evangeliou, A., Styllas, F., Magkos, F., & Dalamaga,

M. (2022). The efficacy and safety of ketogenic diets in drug-resistant epilepsy in children and adolescents: a systematic review of randomized controlled trials. Current Nutrition Reports, 1-15.

Dhinakaran, R., & Mishra, D. (2019). ILAE Classification of Seizures and Epilepsies: An Update for the Pediatrician. Indian Pediatrics, 56(1), 60–62. https://doi.org/10.1007/s13312-019-1469-7

DIN, N. C. (2019). Neuropsychology of Epilepsy in Malaysia: A Narrative Review. Jurnal Sains Kesihatan Malaysia, 17(2), 97-106.

El azizi, M. M. (2020). Quality of life in children with epilepsy. Thesis N 170, universite cadi ayyad faculte de medecine et de pharmacie marrakech

EL Nabawy Ahmed, G., & Abdelgawad Said, D. (2022). Quality of life of children with epilepsy: Parent prospective. International Egyptian Journal of Nursing Sciences and Research, 3(1), 318-336.

Espinosa-Jovel, C., Toledano, R., Aledo-Serrano, Á., García-Morales, I., & Gil-Nagel, A. (2018). Epidemiological profile of epilepsy in low income populations. Seizure, 56, 67-72.

Falco-Walter, J. J., Scheffer, I. E., & Fisher, R. S. (2018). The new definition and classification of seizures and epilepsy. Epilepsy research, 139, 73-79.

Farghaly, W. M., Abd Elhamed, M. A., Hassan, E. M., Soliman, W. T., Yhia, M. A., & Hamdy, N. A. (2018). Prevalence of childhood and adolescence epilepsy in Upper Egypt (desert areas). The Egyptian journal of neurology, psychiatry and neurosurgery, 54(1), 1-7.

Fernández-Ávalos, M. I., Pérez-Marfil, M. N., Ferrer-Cascales, R., Cruz-Quintana, F., Clement-Carbonell, V., & Fernández-Alcántara, M.

(2020). Quality of life and concerns in parent caregivers of adult children diagnosed with intellectual disability: A Qualitative Study. International Journal of Environmental Research and Public Health, 17(22), 8690.

Ferro, M. A. (2014). Risk factors for health-related quality of life in children with epilepsy: A meta-analysis. Epilepsia, 55(11), 1722-1731.

Ferro, MA., Goodwin, SW., Sabaz, M. (2016). Measurement equivalence of the newly developed Quality of Life in Childhood Epilepsy Questionnaire (QOLCE55). Epilepsia, 57, 427-435.

Fisher, R. S., Acevedo, C., Arzimanoglou, A., Bogacz, A., Cross, J. H., Elger, C. E., ... & Wiebe, S. (2014). ILAE official report: a practical clinical definition of epilepsy. Epilepsia, 55(4), 475-482.

Fisher, R. S., Cross, J. H., French, J. A., Higurashi, N., Hirsch, E., Jansen, F. E., … Zuberi, S. M. (2017). Operational classification of seizure types by the International League Against Epilepsy: Position Paper of the ILAE Commission for Classification and Terminology. Epilepsia, 58(4), 522–530.

Fodjo, J. N. S. (2020). Definition, Classification, and Burden of Epilepsy. In Epilepsy-Update on Classification, Etiologies, Instrumental Diagnosis and Treatment. IntechOpen.

Fordington, S., & Manford, M. (2020). A review of seizures and epilepsy following traumatic brain injury. Journal of neurology, 267(10), 3105-3111.

Francesconi, D., Tarozzi, M., Bykachev, K., Välimäki, T., Turunen, H., & Simovska, V. (2022). Quality of life movement: Historical overview of the policies and challenges for the future of education. Policy Futures in Education, 14782103221105462.

Genon, S., Reid, A., Langner, R., Amunts, K., & Eickhoff, S. B. (2018). How to characterize the function of a brain region. Trends in cognitive sciences, 22(4), 350-364.

Gholami, A., Salarilak, S., Lotfabadi, P., Kiani, F., Rajabi, A., Mansori, K., & Jahromi, Z. M. (2016). Quality of life in epileptic patients compared with healthy people. Medical journal of the Islamic Republic of Iran, 30, 388.

Glauser, T. A., & Loddenkemper, T. (2013). Management of childhood epilepsy. CONTINUUM: Lifelong Learning in Neurology, 19(3), 656-681.

Gogou, M., & Cross, J. H. (2022). Seizures and epilepsy in childhood. CONTINUUM: Lifelong Learning in Neurology, 28(2), 428-456.

Goodwin, S. W., Ferro, M. A., & Speechley, K. N. (2019). Measurement equivalence of the short-form Quality of Life in Childhood Epilepsy Questionnaire (QOLCE-16). Epilepsy & Behavior, 90, 142-147.

Goodwin, S. W., Ferro, M. A., Sabaz, M., & Speechley, K. N. (2016). Measurement equivalence of the newly developed Quality of Life in Childhood Epilepsy Questionnaire (QOLCE-55). Epilepsia, 57(3), 427-435.

Guerrini, R., Marini, C., & Barba, C. (2019). Generalized epilepsies. Handbook of clinical neurology, 161, 3-15.

Guilfoyle, S. M., Follansbee-Junger, K., Smith, A. W., Combs, A., Ollier, S., Hater, B., & Modi, A. C. (2018). Antiepileptic drug behavioral side effects and baseline hyperactivity in children and adolescents with new onset epilepsy. Epilepsia, 59(1), 146-154.

Hampton, C., & Benjamin, R. (2022). Managing Epilepsy in Neurocutaneous Disorders. In Neurocutaneous Disorders (pp. 515-525). Springer, Cham.

Hani, A. J., Mikati, H. M. and Mikati, M. A. (2015) 'Genetics of Pediatric Epilepsy', Pediatric, 62, pp. 703–722.

Hansen, C. C., Ljung, H., Brodtkorb, E., & Reimers, A. (2018). Mechanisms underlying aggressive behavior induced by antiepileptic drugs: focus on topiramate, levetiracetam, and perampanel. Behavioural neurology, 2018.

Haraldstad, K., Wahl, A., Andenæs, R., Andersen, J. R., Andersen, M. H., Beisland, E., ... & Helseth, S. (2019). A systematic review of quality of life research in medicine and health sciences. Quality of life Research, 28(10), 2641-2650.

Harb, H. K. M . (2018). Quality of Life of School-aged Children with Epilepsy in Gaza Strip. (Doctoral dissertation, AL-Quds University).

Hauser, W. A., & Hesdorffer, D. C. (2019). Epidemiology of epilepsy. In Neuroepidemiology (pp. 97-120). CRC Press.

Healy, S. A., Im-Bolter, N., & Olds, J. (2018). Executive function and emotional, behavioral, and social competence problems in children with epilepsy. Journal of Child and Family Studies, 27(8), 2430-2440.

Helmstaedter, C., Witt, J. A., & Hoppe, C. (2019). Evaluating the mediating role of executive functions for antiepileptic drugs' effects on IQ in children and adolescents with epilepsy. Epilepsy & Behavior, 96, 98-103.

Hertz-Palmor, N., & Gothelf, D. (2022). The importance of measuring quality of life as a treatment outcome in child and adolescent psychiatry. European Child & Adolescent Psychiatry, 1-5.

Holmes, G. L. (2017). Generalized Seizures. In Swaiman's Pediatric Neurology: Principles and Practice: Sixth Edition (Sixth Edit). Elsevier Inc. https://doi.org/10.1016/B978-0-323-37101-8.00066-7

Honari, B., Homam, S. M., Nabipour, M., Mostafavian, Z., Farajpour, A., & Sahbaie, N. (2021). Epilepsy and quality of life in Iranian epileptic patients. Journal of Patient-Reported Outcomes, 5(1), 1-7.

Horaib, W., Alshamsi, R., Zabeeri, N., Al-Baradie, R. S., & Wahab, M. M. A. (2021). Quality of Life and the Perceived Impact of Epilepsy in Children and Adolescents in the Eastern Province of the Kingdom of Saudi Arabia. Cureus, 13(12).

Huang, C. W. (2019). Epilepsy worry in adolescents and young adults with childhood-onset epilepsy ten years after diagnosis.

Hussain, S. A., Ortendahl, J. D., Bentley, T. G., Harmon, A. L., Gupta, S., Begley, C. E., ... & Knoth, R. L. (2020). The economic burden of caregiving in epilepsy: An estimate based on a survey of US caregivers. Epilepsia, 61(2), 319-329.

Hussain, S. R. A., Orwa, J., Sokhi, D. S., Kathomi, C. M., Dossajee, H., Miyanji, O., ... & Samia, P. (2020). Determining the quality of life of children living with epilepsy in Kenya—A cross-sectional study using the CHEQOL-25 tool. Seizure, 76, 100-104. ILAE Website, (2014) http://www.ilae.org/Visitors/Centre/Index.cfm

Ioannou, P., Foster, D. L., Sander, J. W., Dupont, S., Gil-Nagel, A., Drogon O'Flaherty, E., ... & Medjedovic, J. (2022). The burden of epilepsy and unmet need in people with focal seizures. Brain and Behavior, e2589.

Jacoby, A., Snape, D., Lane, S., & Baker, G. A. (2015). Self-reported anxiety and sleep problems in people with epilepsy and their association with quality of life. Epilepsy & Behavior, 43, 149-158.

Jafaar, S. A. (2014). Quality Of Life For Patients With Epilepsy In Baghdad City. kufa Journal for Nursing sciences, 4(2).

Jafaar, S. A. and Mohammed, W. K. (2013) 'Quality Of Life For Patients Behavior. Elsevier Inc., 69, pp. 147–152. doi: 10.1016/j.yebeh.2016.10.018.

Jauhari, R., Sati, A., & Aqeel, N. (2019). Assessment of Health Related Quality of Life in Patients with Epilepsy. Journal of Drug Delivery and Therapeutics, 9(5-s), 30-33.

John, M. T. (2021). Foundations of oral health-related quality of life. Journal of Oral Rehabilitation, 48(3), 355-359.

Johnson, E. L. (2019). Seizures and epilepsy. Medical Clinics, 103(2), 309-324.

Jones, C., Atkinson, P., Memon, A., Dabydeen, L., Das, K. B., Cross, J. H., ... & Reilly, C. (2019). Experiences and needs of parents of young children with active epilepsy: a population-based study. Epilepsy & Behavior, 90, 37-44.

Jones, L. K. (2017). Anatomy and brain development. Neurocounseling: Brain-Based Clinical Approaches, 1-26.

Kaculini, C. M., Tate-Looney, A. J., & Seifi, A. (2021). The history of epilepsy: from ancient mystery to modern misconception. Cureus, 13(3).

Kaenkrai, A., Patoomwan, A., Wongvatunyu, S., & Lusawat, A. (2021). Factors Affecting the Quality of Life in Children with Epilepsy. Ramathibodi Nursing Journal, 27(1), 15-29.

Kago, D. A. T., Nguefack, S., Chiabi, A., Mah, E., Dongmo, F. N., & Mbonda, E. (2019). quality of life of epileptic children at the gynaeco-obstetric and pediatric hospital in yaounde, cameroon. memory, 21(13.3), 20-9.

Karakis, I. (2019). Neuroscience and Greek mythology. Journal of the History of the Neurosciences, 28(1), 1-22.

Karthika, T. (2020). Prevalence of Behavioural Problems in Children with Epilepsy in Tertiary Care Hospital: Tirunelveli Medical College and Hospital (Doctoral dissertation, Tirunelveli Medical College, Tirunelveli).

Kaski, D., & Cockerell, C. (2015). Advances in the diagnosis and management of epilepsy in adults. Prescriber, 26(3), 12-19.

Kassie, A. M., Abate, B. B., Kassaw, M. W., Getie, A., Wondmieneh, A., Tegegne, K. M., & Ahmed, M. (2021). Quality of life and its associated factors among epileptic patients attending public hospitals in North Wollo Zone, Northeast Ethiopia: A cross-sectional study. PloS one, 16(2), e0247336.

Kendis, H., Baron, K., Schuele, S. U., Patel, B., & Attarian, H. (2015). Chronotypes in patients with epilepsy: does the type of epilepsy make a difference?. Behavioural Neurology, 2015.

Khanna, A. K., Prabhakaran, A., Patel, P., Ganjiwale, J. D., & Nimbalkar, S. M. (2015). Social, Psychological and Financial Burden on Caregivers of Children with Chronic Illness: A Cross-sectional Study. Indian Journal of Pediatrics, 82(11), 1006–1011.

Kirabira, J., Forry, B. J., Fallen, R., & Sserwanga, B. (2020). Perceived stigma and school attendance among children and adolescents with epilepsy in South Western Uganda. African Health Sciences, 20(1), 376-382.

Kirabira, J., Nakawuki, M., Fallen, R., & Rukundo, G. Z. (2018). Perceived stigma and associated factors among children and adolescents with epilepsy in south western Uganda: A cross sectional study. Seizure, 57, 50-55.

Klein, P., & Tyrlikova, I. (2020). No prevention or cure of epilepsy as yet. Neuropharmacology, 168, 107762.

Kløvgaard, M., Lynge, T. H., Tsiropoulos, I., Uldall, P. V., Banner, J., Winkel, B. G., ... & Sabers, A. (2022). Epilepsy-related mortality in children and young adults in Denmark: a nationwide cohort study. Neurology, 98(3), e213-e224.

Kreutzer, J. S., Marwitz, J. H., Sima, A. P., Bergquist, T. F., Johnson-Greene, D., Felix, E. R., ... & Dreer, L. E. (2016). Resilience following traumatic brain injury: a traumatic brain injury model systems study. Archives of physical medicine and rehabilitation, 97(5), 708-713.

Kutluk, M. G., & Danis, A. (2021). Bibliometric analysis of publications on pediatric epilepsy between 1980 and 2018. Child Nervous System, 37(2), 617-626.

Kwong, K. L., Lam, D., Tsui, S., Ngan, M., Tsang, B., & Lam, S. M. (2016). Attention deficit hyperactivity disorder in adolescents with epilepsy. Pediatric Neurology, 57, 56-63.

Lawal, M., Omobayo, H., & Lawal, K. (2018). Epilepsy: pathophysiology, clinical manifestations and treatment options. British Journal of Neuroscience Nursing, 14(2), 58-72.

Lebling, R. (2010). Legends of the fire spirits: Jinn and genies from Arabia to Zanzibar. Bloomsbury Publishing.

Lee, S. A., Kim, S. J., Han, N. E., Lee, S. M., & No, Y. J. (2021). Gender differences in factors associated with resilience for health-related quality of life in persons with epilepsy. Epilepsy & Behavior, 115, 107710.

Lezaic, N., Gore, G., Josephson, C. B., Wiebe, S., Jette, N., & Keezer, M. R. (2019). The medical treatment of epilepsy in the elderly: a systematic review and meta-analysis. Epilepsia, 60(7), 1325-1340.

Li, J., Leverton, L. K., Naganatanahalli, L. M., & Christian-Hinman, C. A. (2020). Seizure burden fluctuates with the female reproductive cycle in a mouse model of chronic temporal lobe epilepsy. Experimental neurology, 334, 113492.

Louis, E. K. S., & Cascino, G. D. (2016). Diagnosis of epilepsy and related episodic disorders. CONTINUUM: Lifelong Learning in Neurology, 22(1), 15-37.

Lüders, H., Vaca, G. F. B., Akamatsu, N., Amina, S., Arzimanoglou, A., Baumgartner, C., ... & Kahane, P. (2019). Classification of paroxysmal events and the four-dimensional epilepsy classification system. Epileptic Disorders, 21(1), 1-29.

Maha, A., NAHID, S. A., MOHAMMED, A. H. S., & Doaa, A. (2020). Quality of life in childhood epilepsy. The Medical Journal of Cairo University, 88(September), 1477-1485.

Mansy, G. , Elshehawy, A., El-sayed, E., Morsyand, N. and Hegazy., S. (2012) 'Maternal rapctice and its effect on Quality of Life of their Epileptic Children Gamalat', Nature and Science, 10(2), pp. 116–123.

McGonigal, A., Bartolomei, F., & Chauvel, P. (2021). On seizure semiology. Epilepsia, 62(9), 2019-2035.

Mekonen Tefera, G., Woldehaimanot, T. E., & Tarekegn, M. (2015). Poor treatment outcomes and associated factors among epileptic patients at Ambo Hospital, Ethiopia. European journal of therapeutics, 21(1), 9-16.

Mendes, T. P., Crespo, C. A., & Austin, J. K. (2017). Family cohesion, stigma, and quality of life in dyads of children with epilepsy and their parents. Journal of Pediatric Psychology, 42(6), 689-699.

Minardi, C., Minacapelli, R., Valastro, P., Vasile, F., Pitino, S., Pavone, P. & Murabito, P. (2019). Epilepsy in children: from diagnosis to treatment with focus on emergency. Journal of clinical medicine, 8(1), 39.

Minwuyelet, F., Mulugeta, H., Tsegaye, D., Lake, B., Getie, A., Tsegaye, B., & Mullu, G. (2022). Quality of life and associated factors among patients with epilepsy at specialized hospitals, Northwest Ethiopia; 2019. PloS one, 17(1), e0262814.

Mohammed, H. B. J., & Al-Ogaili, S. S. C. (2019). Risk Factors Associated with Epilepsy among Children in Al-Najaf Province: A Case Control Study. SCOPUS IJPHRD CITATION SCORE, 10(01), 877.

Moreira, H., Carona, C., Silva, N., Frontini, R., Bullinger, M., Canavarro, MC. (2013). Psychological and quality of life outcomes in pediatric

populations: a parentchild perspective. J Pediatr, 163,1471-147 http://refhub.elsevier.com/S1525- 5050(17)30708-4/rf00858.

Mosaku K, S. Komolafe , A., & Lawal M, (2006) quality of life and associated factors among adults with epilepsy in Nigeria. Int'l. J. Psychiatry in medicine, vol. 36(4) 469-481.

Mula, M. (2019). Epilepsy and mood disorders. In The Comorbidities of Epilepsy (pp. 299-314). Academic Press.

Mutanana, N., & Mutara, G. (2015). Health seeking behaviours of people with epilepsy in a rural community of Zimbabwe. International Journal, 87.

Nadkarni J., Jain A., Dwivedi R. (2019) Quality of life in children with epilepsy. Annals of Indian Academy of Neurology ,14(4), 279-282

Nagarajan, S. (2018). Assessment of Health related Quality of Life in Children with Epilepsy using Quality of Life in Childhood Epilepsy Questionnaire (QOLCE-55) (Doctoral dissertation, JKK Nattraja College of Pharmacy, Komarapalayam).

Nazarov, A. I. (2022). Consequences of seizures and epilepsy in children. Web of Scientist: International Scientific Research Journal, 3(02), 483-489.

Nikolić1, D., Rogač, Ž. (2019). Quality of Life in Children With Epilepsy. Scr Med 2019;50(3):134-7. https://DOI:10.5937/scriptamed50-23153.

Norsa'adah, B., Zainab, J. & Knight, A. (2013). The quality of life of people with epilepsy at a tertiary referral centre in Malaysia. Health Qual Life Outcomes 11, 143 https://doi.org/10.1186/1477-7525-11-143

Ogundare, T., Adebowale, T. O., & Okonkwo, O. A. (2021). Quality of life among patients with epilepsy in Nigeria: predictors and barriers to routine clinical use of QOLIE-31. Quality of Life Research, 30(2), 487-496.

Operto, F. F., Pastorino, G. M. G., Padovano, C., Scuoppo, C., Vivenzio, V., & Coppola, G. (2020). Psychogenic Seizures in Adolescents: An "Evergreen" Diagnostic Challenge. BRAIN. Broad Research in Artificial Intelligence and Neuroscience, 11(3Sup1), 153-162.

Pachange, P. N., Dixit, J. V., Arjun, M. C., & Goel, A. D. (2021). Quality of life among middle and secondary school children with epilepsy. Journal of Neurosciences in Rural Practice, 12(03), 490-494.

Pack, A. M. (2019). Epilepsy overview and revised classification of seizures and epilepsies. CONTINUUM: Lifelong Learning in Neurology, 25(2), 306-321.

Panteliadis, C. P., Vassilyadi, P., Fehlert, J., & Hagel, C. (2017). Historical documents on epilepsy: from antiquity through the 20th century. Brain and Development, 39(6), 457-463.

Pardhi, A. W., & Varade, S. W. (2020, July). An Overview of Detection and Prediction of Seizure or Epilepsy. In 2020 International Conference on Electronics and Sustainable Communication Systems (ICESC) (pp. 955-960). IEEE.

Patel, M. (2018). A metabolic paradigm for epilepsy. Epilepsy currents, 18(5), 318-322.

Peat, J., Mellis, C., & Williams, K. (Eds.). (2002). Health science research: a handbook of quantitative methods. Sage.

Penovich, P. E., Buelow, J., Steinberg, K., Sirven, J& Wheless, J. (2017). Burden of seizure clusters on patients with epilepsy and caregivers. The n., eurologist, 22(6), 207-214.

Perrotta, G. (2020). Epilepsy: from pediatric to adulthood. Definition, classifications, neurobiological profiles and clinical treatments. Journal of Neurology, Neurological Science and Disorders, 6(1), 014-029.

Perucca, P., Scheffer, I. E., & Kiley, M. (2018). The management of epilepsy in children and adults. Medical Journal of Australia, 208(5), 226-233.

Pokharel, R., Poudel, P., Lama, S., Thapa, K., Sigdel, R., & Shrestha, E. (2020). Burden and its predictors among caregivers of patient with epilepsy. Journal of Epilepsy Research, 10(1), 24.

Prajapati, M, K. Dwivedi D, Bajaj N. (2020); Quality of Life in Children with Epilepsy. Pediatr Epilepsy;9: 36–41.

Puka, K., Goodwin, S. W., Ferro, M. A., Smith, M. L., Widjaja, E., Anderson, K. K., & Speechley, K. N. (2020). Validation of the Quality of Life in Childhood Epilepsy Questionnaire (QOLCE-55 and QOLCE-16) for use by parents of young adults with childhood-onset epilepsy. Epilepsy & Behavior, 104, 106904.

Puka, K., Tavares, T. P., Anderson, K. K., Ferro, M. A., & Speechley, K. N. (2018). A systematic review of quality of life in parents of children with epilepsy. Epilepsy & Behavior, 82, 38-45.

Rabie, F. M., Al Asmari A. H., Al-Barak, S. A., Al-Rashed, F. M. and Marei, N. (2016) 'Prevalence and Determinants of Epilepsy among School Children in Aseer Region- KSA', journal of Education and Practice, 7(21), pp. 149–153.

Raggi, A., Plazzi, G., & Ferri, R. (2019). Health-related quality of life in patients with narcolepsy: a review of the literature. The Journal of nervous and mental disease, 207(2), 84-99.

Rani, A., & Thomas, P. T. (2019). Parental knoweldge, attitude, and perception about epilepsy and sociocultural barriers to treatment. Journal of Epilepsy Research, 9(1), 65.

Rani, A., & Thomas, P. T. (2019). Stress and perceived stigma among parents of children with epilepsy. Neurological Sciences, 40(7), 1363-1370.

Regmi, S. (2021). Knowledge, beliefs on epilepsy and practice on epilepsy first aid management among students of Bangladesh Health Professional Institute, CRP (Doctoral dissertation, Bangladesh Health Professions Institute, Faculty of Medicine, the University of Dhaka, Bangladesh.).

Reilly, C., Atkinson, P., Das, K. B., Chin, R. F., Aylett, S. E., Burch, V., ... & Neville, B. G. (2014). Neurobehavioral comorbidities in children with active epilepsy: a population-based study. Pediatrics, 133(6), e1586-e1593.

Revicki, D. A., Kleinman, L., & Cella, D. (2022). A history of health-related quality of life outcomes in psychiatry. Dialogues in clinical neuroscience.

Reynolds, E. H., & Kinnier Wilson, J. V. (2014). Neurology and psychiatry in Babylon. Brain, 137(9), 2611-2619.

Riechmann, J., Willems, L. M., Boor, R., Kieslich, M., Knake, S., Langner, C., ... & Strzelczyk, A. (2019). Quality of life and correlating factors in children, adolescents with epilepsy, and their caregivers: A cross-sectional multicenter study from Germany. Seizure, 69, 92-98.

Ring A, Jacoby A, Baker G, Marson A, Whitehead MM.(2016). Does the concept of resilience contribute to understanding good quality of life in the context of epilepsy? Epilepsy Behav 2016;56:153-64.

Ronen, G. M., Rosenbaum, P. L., Boyle, M. H., & Streiner, D. L. (2018). Patient-reported quality of life and biopsychosocial health outcomes in pediatric epilepsy: an update for healthcare providers. Epilepsy & Behavior, 86, 19-24.

Ropper, A. H., Samuels, M. A. and Klein, J. P. (2014) Principles of Neurology. 10th edn. USA: McGraw-Hill Education.

Rosenberg, E. C., Louik, J., Conway, E., Devinsky, O., & Friedman, D. (2018). Quality of Life of Childhood Epilepsy (QOLCE) in pediatric patients enrolled in a prospective, open-label clinical study with cannabidiol (CBD). Epilepsia, 58, 1-8.

Rozensztrauch, A., & Kołtuniuk, A. (2022). The Quality of Life of Children with Epilepsy and the Impact of the Disease on the Family Functioning. International Journal of Environmental Research and Public Health, 19(4), 2277.

Sadr, S. S., Javanbakht, J., Javidan, A. N., Ghaffarpour, M., Khamse, S., & Naghshband, Z. (2018). Descriptive epidemiology: prevalence, incidence, sociodemographic factors, socioeconomic domains, and quality of life of epilepsy: an update and systematic review. Archives of Medical Science, 14(4), 717-724.

Sajobi, T. T., Josephson, C. B., Sawatzky, R., Wang, M., Lawal, O., Patten, S. B., ... & Wiebe, S. (2021). Quality of Life in Epilepsy: Same questions, but different meaning to different people. Epilepsia, 62(9), 2094-2102.

Sajobi, T. T., Speechley, K. N., Liang, Z., Goodwin, S. W., Ferro, M. A., & Wiebe, S. (2017). Response shift in parents' assessment of health-related quality of life of children with new-onset epilepsy. Epilepsy & Behavior : E&B, 75, 97–101.

Saleh, S. H. A., Mohammed, M. E. H., & Abounaji, O. A. (2021). Health related quality of life in Egyptian children and adolescents with epilepsy. The Egyptian Journal of Hospital Medicine, 85(2), 3772-3777.

Salpekar, J. A., & Mula, M. (2019). Common psychiatric comorbidities in epilepsy: How big of a problem is it?. Epilepsy & behavior, 98, 293-297.

Salpekar, J., Byrne, M. and Ferrone, G. (2013) 'Epidemiology and common comorbidities of epilepsy in childhood', in Wheless., J. W. (ed.) Epilepsy in Children and Adolescents. 1st edn. USA: John Wiley & Sons, Ltd, p. 4.

Samanta, D., Elumalai, V., Hoyt, M. L., Modi, A. C., & Sajatovic, M. (2022). A qualitative study of epilepsy self-management barriers and facilitators in Black children and caregivers in Arkansas. Epilepsy & Behavior, 126, 108491.

Samanta, D., Hoyt, M. L., & Perry, M. S. (2021). Healthcare professionals' knowledge, attitude, and perception of epilepsy surgery: A systematic review. Epilepsy & Behavior, 122, 108199.

Samia, P., & Wilmshurst, J. M. (2020). Common Childhood Epilepsy Mimics. In Clinical Child Neurology (pp. 743-765). Springer, Cham.

Samia, P., Hassell, J., Hudson, J. A., Murithi, M. K., Kariuki, S. M., Newton, C. R., & Wilmshurst, J. M. (2019). Epilepsy diagnosis and

management of children in Kenya: review of current literature. Research and Reports in Tropical Medicine, 10, 91.

Sarmast, S. T., Abdullahi, A. M., & Jahan, N. (2020). Current classification of seizures and epilepsies: scope, limitations and recommendations for future action. Cureus, 12(9).

Scheffer, I. E., Berkovic, S., Capovilla, G., Connolly, M. B., French, J., Guilhoto, L., ... & Zuberi, S. M. (2017). ILAE classification of the epilepsies: position paper of the ILAE Commission for Classification and Terminology. Epilepsia, 58(4), 512-521.

Scrivner, B., Szaflarski, M., Baker, E. H., & Szaflarski, J. P. (2019). Health literacy and quality of life in patients with treatment-resistant epilepsy. Epilepsy & Behavior, 99, 106480.

Şengül, Y., & Kurudirek, F. (2022). Perceived stigma and self-esteem for children with epilepsy. Epilepsy Research, 186, 107017.

Serra-Pinheiro, M. A., D'andrea-Meira, I., Angelim, A. I. M., Fonseca, F. A., & Zimmermann, N. (2021). High prevalence of psychiatric comorbidities in children and adolescents at a tertiary epilepsy center. Arquivos de Neuro-Psiquiatria, 79, 521-526.

Shah, P. D., Yun, M., Wu, A., Arnesen, R. A., Storey, M., Sokoloff, M., & Grinspan, Z. M. (2022). Pediatric Epilepsy Learning Healthcare System Quality of Life (PELHS-QOL-2): A novel health-related quality of life prompt for children with epilepsy. Epilepsia, 63(3), 672-685.

Shakir, M., & Al-Asadi, J. N. (2012). Quality of life and its determinants in people with epilepsy in Basrah, Iraq. Sultan Qaboos University medical journal, 12(4), 449.

Shakya, S., Shakya, R., Poudel, P., & Shrestha, A. K. (2020). Quality of Life Assessment in Pediatric Epilepsy. International Journal of Epilepsy, 6(02), 54-58.

Shaw, L., Moore, D., Nunns, M., Thompson Coon, J., Ford, T., Berry, V., ... & Garside, R. (2019). Experiences of interventions aiming to improve the mental health and well-being of children and young people with a long-term physical condition: a systematic review and meta-ethnography. Child: care, health and development, 45(6), 832-849.

Silbergleit, R. and Vonderschmidt, M. K. (2014) 'Seizures', in Crocco, T. J. and Sayre, M. R. (eds) Prehospital Care of Neurologic Emergencies. 1st edn. USA: Cambridge University, pp. 39–40.

Smith, A. W., Mara, C. A., & Modi, A. C. (2018). Adherence to antiepileptic drugs in adolescents with epilepsy. *Epilepsy & Behavior*, *80*, 307-311.

Smith, G., Modi, A. C., Johnson, E. K., Shegog, R., Austin, J. K., & Wagner, J. L. (2018). Measurement in pediatric epilepsy self-management: A critical review. Epilepsia, 59(3), 509-522.

Smithson, w. H. and Walker, M. (2012) 'What is Epilepsy? Incidence, Prevalence and Aetiology', in Smithson, w. H. and Walker, M. (eds) ABC of Epilepsy. 1st edn. London: Blackwell Publishing Ltd., p. 2.

Sorg, A. L., von Kries, R., & Borggraefe, I. (2022). Cognitive disorders in childhood epilepsy: a comparative longitudinal study using administrative healthcare data. Journal of Neurology, 269(7), 3789-3799.

Specchio, N., Wirrell, E. C., Scheffer, I. E., Nabbout, R., Riney, K., Samia, P., ... & Auvin, S. (2022). International League Against Epilepsy classification and definition of epilepsy syndromes with onset in

childhood: Position paper by the ILAE Task Force on Nosology and Definitions. Epilepsia, 63(6), 1398-1442.

Sruijana, M. Vigneshwaran, E., Kumar, G., Jyoshna, K., Sadiq, M.J. (2017). Assessment of quality of life in children with epilepsy in rural settings of South India, CHRISMED Journal of Health and Research, 4, 110-116.

Stafstrom, C. E., & Carmant, L. (2015). Seizures and epilepsy: an overview for neuroscientists. Cold Spring Harbor perspectives in medicine, 5(6), a022426.

Stafstrom, C. E., Sun, L. R., Kossoff, E. H., Dabrowski, A. K., Singhi, S., & Kelley, S. A. (2021). Diagnosing and managing childhood absence epilepsy by telemedicine. Epilepsy & Behavior, 115, 107404.

Steven k. thampson (2012). Sampling, *Third edition, p (59-60).*

Stock, I. (2021). Insights into the use of social comparison in migrants' transnational social positioning strategies. Social Inclusion, 9(1), 104-113.

Subki, A. H., Mukhtar, A. M., Al-Harbi, R. S., Alotaibi, A. K., Mosaad, F. G., Alsallum, M. S., & Jan, M. M. (2018). The impact of pediatric epilepsy on children and families: a multicenter cross-sectional study. Clinical Practice and Epidemiology in Mental Health: CP & EMH, 14, 323.

Suliaman, T., Hendriksz, M., Keikelame, M. J., & Swartz, L. (2017). Psychosocial challenges affecting the quality of life in adults with epilepsy and their carers in Africa: A review of published evidence between 1994 and 2014. African Journal of Primary Health Care and Family Medicine, 9(1), 1-5.

Suller Marti, A. (2022). Vagus Nerve Stimulation in Medically-Resistant Epilepsy: Efficacy and Tolerance.

Taylor, J., Jacoby, A., Baker, G. A., & Marson, A. G. (2011). Self-reported and parent-reported quality of life of children and adolescents with new-onset epilepsy. Epilepsia, 52(8), 1489-1498.

Tedrus, G. M. A. S., Junior, J. M. L., & Zuntini, J. V. R. (2020). Resilience, quality of life, and clinical aspects of patients with epilepsy. Epilepsy & Behavior, 103, 106398.

Tegegne MT, Muluneh NY, Wochamo TT, Awoke AA, Mossie TB, Yesigat MA.(2014). Assessment of quality of life and associated factors among people with epilepsy attending at Amanuel Mental Specialized Hospital, Addis Ababa, Ethiopia. Sci J Public Health. 2(5):378–383. doi:10.11648/j.sjph.20140205.12

Thijs, R. D., Surges, R., O'Brien, T. J., & Sander, J. W. (2019). Epilepsy in adults. The Lancet, 393(10172), 689-701.

Tolchin, B., Hirsch, L. J., & LaFrance Jr, W. C. (2020). Neuropsychiatric aspects of epilepsy. Psychiatric Clinics of North America, 43(2), 275-290.

Tombini, M., Assenza, G., Quintiliani, L., Ricci, L., Lanzone, J., Ulivi, M., & Di Lazzaro, V. (2020). Depressive symptoms and difficulties in emotion regulation in adult patients with epilepsy: association with quality of life and stigma. Epilepsy & Behavior, 107, 107073.

Trinka, E., & Kälviäinen, R. (2017). 25 years of advances in the definition, classification and treatment of status epilepticus. Seizure, 44, 65-73.

Trinka, E., Kwan, P., Lee, B., & Dash, A. (2019). Epilepsy in Asia: disease burden, management barriers, and challenges. Epilepsia, 60, 7-21.

Tripathi, N. (2018). A valuation of Abraham Maslow's theory of self-actualization for the enhancement of quality of life. Indian Journal of health and wellbeing, 9(3), 499-504.

Tschamper, M. K., Wahl, A. K., Hermansen, Å., Jakobsen, R., & Larsen, M. H. (2022). Parents of children with epilepsy: Characteristics associated with high and low levels of health literacy. Epilepsy & Behavior, 130, 108658.

Ughasoro, M. D., Onwujekwe, O. E., & Ojinnaka, N. C. (2014). Economic cost of treatment of childhood epilepsy in Enugu, Southeast Nigeria. International Journal of Technology Assessment in Health Care, 30(4), 469-474.

Verrotti, A., Matricardi, S., Rinaldi, V. E., Prezioso, G., & Coppola, G. (2015). Neuropsychological impairment in childhood absence epilepsy: review of the literature. Journal of the neurological sciences, 359(1-2), 59-66.

Vezzani, A., Fujinami, R. S., White, H. S., Preux, P. M., Blümcke, I., Sander, J. W., & Löscher, W. (2016). Infections, inflammation and epilepsy. Acta neuropathologica, 131(2), 211-234.

Wagner, R. G. (2016). The Burden of Epilepsy: using population-based data to define the burden and model a cost-effective intervention for the treatment of epilepsy in rural South Africa (Doctoral dissertation, Umeå University).

Weinstein, S., Zaveri, H. P., Frei, M. G., & Arthurs, S. (2016). Seizures and epilepsy: An overview. Epilepsy: The Intersection of Neurosciences, Biology, Mathematics, Engineering, and Physics, 65-77.

Wilson, I. B., & Cleary, P. D. (1995). Linking clinical variables with health-related quality of life: a conceptual model of patient outcomes. Jama, 273(1), 59-65.

Wo, S. W., Ong, L. C., Low, W. Y., & Lai, P. S. M. (2018). Exploring the needs and challenges of parents and their children in childhood epilepsy care: a qualitative study. Epilepsy & Behavior, 88, 268-276.

World Health Organization. (2010). Epilepsy in the WHO Eastern Mediterranean region: bridging the gap.

World Health Organization. (2011). Epilepsy in the WHO European Region: Fostering epilepsy care in Europe. Cruquius, the Netherlands: World Health Organization.

World Health Organization. (2019). WHO | Epilepsy: a public health imperative. Who. Retrieved from https://www.who.int/mental_health/neurology/epilepsy/report_2019/en/

Wu, D ., Ding, D., Wang, Y., & Hong, Z. (2010). Quality of life and related factors in Chinese adolescents with active epilepsy. Epilepsy Research 90,16-20.

Yang, H., Chi, Y., Zhu, Z., Huang, K., Xiang, L., Xiao, B., ... & Feng, L. (2021). Attitudes toward epilepsy among parents of children with epilepsy in Southern China. Frontiers in Neurology, 11, 602000.

Yeni, K., Tulek, Z., Simsek, O. F., & Bebek, N. (2018). Relationships between knowledge, attitudes, stigma, anxiety and depression, and quality of life in epilepsy: A structural equation modeling. Epilepsy & Behavior, 85, 212-217.

Yoo, J. Y., & Panov, F. (2019). Identification and treatment of drug-

resistant epilepsy. CONTINUUM: Lifelong Learning in Neurology, 25(2), 362-380.

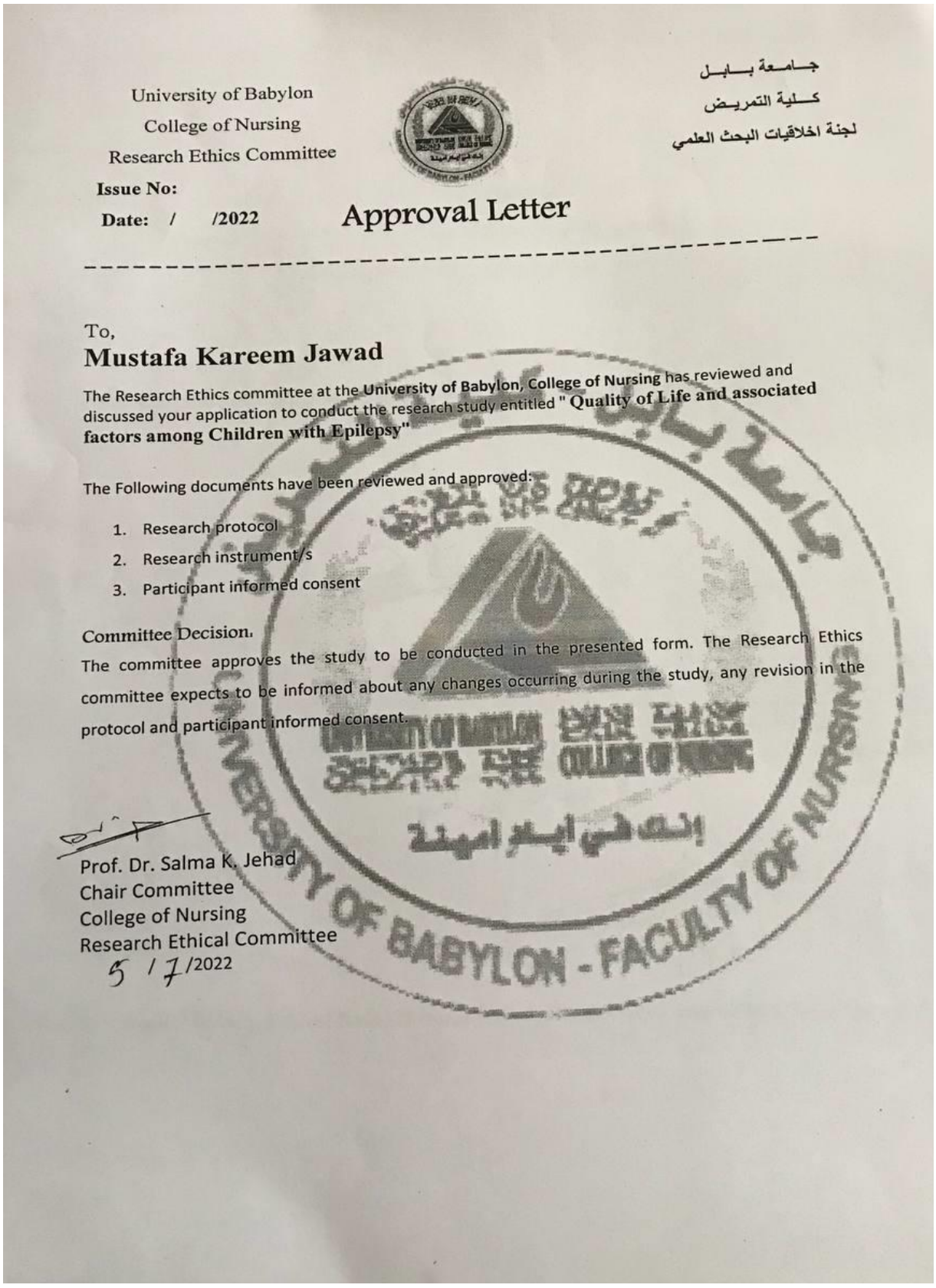
Zentner, J. (2020). Epilepsy: Clinical, Epidemiological, and Therapeutical Aspects. In Surgical Treatment of Epilepsies (pp. 13-18). Springer, Cham.

Zhao, Q., Wang, M., Kang, H., & Zhu, S. (2018). Behavior problems in children with epilepsy and attention-deficit hyperactivity disorder in Central China. Epilepsy & Behavior, 89, 79-83.

Appendix A

Ethical approval

Appendix A : Ethical Consideration



University of Babylon
College of Nursing
Research Ethics Committee

جـــامـعة بـــابـــل
كـــلية التمريـض
لجنة اخلاقيات البحث العلمي

Issue No:
Date: / /2022

Approval Letter

To,
Mustafa Kareem Jawad

The Research Ethics committee at the **University of Babylon, College of Nursing** has reviewed and discussed your application to conduct the research study entitled **" Quality of Life and associated factors among Children with Epilepsy"**

The Following documents have been reviewed and approved:

1. Research protocol
2. Research instrument/s
3. Participant informed consent

Committee Decision.

The committee approves the study to be conducted in the presented form. The Research Ethics committee expects to be informed about any changes occurring during the study, any revision in the protocol and participant informed consent.

Prof. Dr. Salma K. Jehad
Chair Committee
College of Nursing
Research Ethical Committee
5 / 7 /2022

UNIVERSITY OF BABYLON - FACULTY OF NURSING

Appendix B
Panel of Experts

Appendix B: Panel of Experts

خبراء تحكيم الاستمارة

ت	اسم الخبير	اللقب	مكان العمل	الاختصاص الدقيق	عدد سنوات الخبرة
1	د. امين عجيل الياسري	أستاذ	جامعة بابل/ كلية التمريض	تمريض صحة المجتمع	38 سنة
2	د. سجاء هاشم عبد	استاذ متمرس	جامعة بابل/ كلية التمريض	تمريض الصحة النفسية	41 سنة
3	د. عفيفة رضا عزيز	أستاذ	جامعة بغداد/ كلية التمريض	تمريض صحة الطفل والمراهق	41 سنة
4	د. سلمى جهاد كاظم	أستاذ	جامعة بابل / كلية التمريض	تمريض صحة المجتمع	38 سنة
5	د. محمد فاضل خليفة	أستاذ	جامعة بغداد / كلية التمريض	تمريض صحة المجتمع	30 سنة
6	د. فاطمة وناس خضير	أستاذ	جامعة الكوفة / كلية التمريض	تمريض صحة المجتمع	30 سنة
7	د. كريم رشك ساجت	استاذ مساعد	جامعة بغداد / كلية التمريض	تمريض الصحة النفسية	30 سنة
8	د. هالة سعدي عبد الواحد	أستاذ	جامعة بغداد / كلية التمريض	تمريض صحة المجتمع	28 سنة
9	د .خميس بندر عبيد	أستاذ	جامعة كربلاء/ كلية التمريض	تمريض صحة الطفل والمراهق	22 سنة
10	د. عذراء حسين شوق	أستاذ مساعد	جامعة بغداد/ كلية التمريض	تمريض صحة الطفل والمراهق	18سنة
11	د. احمد عبدالله عبد	استاذ مساعد	جامعة ذي قار/ كلية التمريض	تمريض صحة الطفل والمراهق	16سنة
12	د وفاء احمد امين	أستاذ مساعد	جامعة بابل/ كلية التمريض	تمريض صحة الام والوليد	16سنة
13	د. زيد وحيد عاجل	أستاذ مساعد	جامعة بغداد/ كلية التمريض	تمريض صحة الطفل والمراهق	15 سنة
14	د. ريان إبراهيم خليل	مدرس	جامعة الموصل/ كلية التمريض	تمريض صحة الطفل والمراهق	15 سنة
15	د. ايناس الحبوبي	طبيبة اختصاص	مستشفى الديوانية التعليمي	الطب النفسي	15سنة

Appendix C
Administrative Agreements

Appendix C: Administrative Agreements

Ministry of Higher Education and Scientific Research

وزارة التعليم العالي والبحث العلمي

University of Babylon
College of Nursing

جامعة بابل
كلية التمريض
لجنة الدراسات العليا

العدد : ٢٤٣٧

التاريخ : ١٧ / ٧ / ٢٠٢٢

Ref. No. :
Date: / /

الى / دائرة صحة الديوانية / مستشفى الديوانية التعليمي
م/ تسهيل مهمة

تحية طيبة :

يطيب لنا حسن التواصل معكم ويرجى تفضلكم بتسهيل مهمة طالب الدكتوراه
(مصطفى كريم جواد حسون) لغرض جمع عينة دراسة الدكتوراه والخاصة بالبحث الموسوم :

(نوعية الحياة والعوامل المرتبطة بها بين الاطفال المصابين بالصرع) .

(quality of life and associated factors among children with epilepsy).

... مع الاحترام ...

المرافقات //
- بروتوكول .
- استبانة

ا.م . د. نهاد محمد قاسم الدوري
معاون العميد للشؤون العلمية والدراسات العليا
١٧ / ٧ / ٢٠٢٢

صورة عنه الى //
- مكتب السيد العميد للتفضل بالاطلاع مع الاحترام .
- لجنة الدراسات العليا
- الصادرة .

*بسمة ٧/١٧

E-mail:nursing@uobabylon.edu.iq

وطني 07711632208
المكتب 009647711632208

www.uobabylon.edu.iq

جمهورية العراق
وزارة الصحة
دائرة صحة الديوانية
قسم تدريب والتنمية البشرية
العدد / ٢٤٨
التاريخ / ٢٠٢٢/٧/٢٥

وزارة الصحة العراقية
مركز التدريب والتطوير
Iraqi Ministry of Health
Training & Dev. Center

دائرة صحة الديوانية
قسم التدريب والتنمية البشرية
الصادرة
العدد/
التاريخ

إلى / مستشفى الديوانية التعليمي

م / تسهيل مهمة بحثية

تحياتي أطيب تحياتي....

كتابكم جامعة بابل /كلية التمريض المرقم ٢٤٠٧ في ٢٠٢٢/٧/١٧ ،المتضمن تسهيل المهمة البحثية للباحث (مصطفى كريم جواد حسون) ،لغرض جمع العينة البحثية في (مستشفى الديوانية التعليمي /مركز الجهاز العصبي) ، **وقد اطلعت لجنة البحوث في دائرتنا على اطروحته الموسومة :-**

(نوعية الحياة والعوامل المُرتبطة بها بين الاطفال المصابين بالصرع)

لامانع لدينا من اجراء بحثه على ان لاتتحمل مؤسساتنا اي تبعات مالية او قانونية

مـــــع الاحترام

المرفق

كتاب جامعة بغداد/ كلية التمريض المرقم ٢٤٠٧ في ٢٠٢٢/٧/١٧
أستمارة المعلومات البحثية
أقرار البحث

الطبيب الاختصاص
يحيى فالح محمد
مدير قسم التدريب والتنمية البشرية
٢٠٢٢/٧/٢٥

الطبيب الاختصاص
يحيى فالح محمد

الدكتور
مصطفى كريم جواد
اختصاص جراحة الأعصاب والمخاطر

نسخة منه إلى //
قسم التدريب والتنمية البشرية / شعبة ادارة المعرفة والبحوث
جامعة بابل /كلية التمريض /لجنة الدراسات العليا

وزارة الصحة
دائرة صحة الديوانية
قسم التدريب والتنمية البشرية
شعبة ادارة المعرفة والبحوث
قرار لجنة البحوث

استمارة رقم ٢٠٢١ / ٠٢

رقم القرار: ٥٤

تاريخ القرار : ٢٠٢٢/٧/٢٥

قرار لجنة البحوث

درست لجنة البحوث في دائرة صحة الديوانية مشروع البحث المقدم من قبل السيد الباحث (مصطفى كريم جواد حسون) ،علماً ان الباحث احد طلبة الدكتوراه في جامعة بابل /كلية التمريض وعنوان اطروحته :-

نوعية الحياة والعوامل المرتبطة بها بين الاطفال المصابين بالصرع

والمقدم من قبل الباحث الى قسم التدريب والتنمية البشرية /شعبة ادارة المعرفة والبحوث / لجنة البحوث في دائرة صحة الديوانية بتأريخ ٢٠٢٢/٧/٢٠ قررت اللجنة :-

قبول مشروع البحث اعلاه كونه مستوفياً للمعايير المعتمدة في وزارة الصحة والخاصة بتنفيذ البحوث ولا مانع لدينا من تنفيذه .

المرفقات / تعديلات وملاحظات لجنة البحوث / لايوجد

البحث مستوفي الشروط العلمية ومطابق لأخلاقيات البحث العلمي

ولامانع لدينا من أجراء البحث في (مستشفى الديوانية التعليمي).

رئيس لجنة البحوث

الطبيب الاختصاص/ أ.د.يحيى فالح محمد

٢٠٢٢ / ٧ / ٢٥

Appendix D

Questionnaire

(Part one)

A- Demographic data for parent

1-Age of father ☐ years age of mother ☐ years

2- - Residence: urban ☐ Rural ☐

3- Level of education of father : Illiterate ☐ intermediate school ☐

secondary school ☐ High education ☐

4- Level of education of mother : Illiterate ☐ intermediate school ☐

Secondary school ☐ High education ☐

5- Occupation of father : Employment ☐ Un employment ☐

6- Occupation of mother : Employment ☐ Un employment ☐

7- family income: sufficient ☐ Sufficient to what limits ☐ in sufficient ☐

8- number of family members: ☐

B- Demographic data for child

1-Age ☐ years

2- Gender**:** male ☐ female ☐

3- level of education: Illiterate ☐ Primary School ☐ Secondary ☐

School

4- sequence of the child in the family ☐

Part two

Factors associated with children epilepsy and effect the quality of life

1- Child age at diagnosis ☐

2- Duration of illness: Less than 3 years ☐ 3-5 years ☐

more than 5 years ☐

3- Type of epilepsy Generalized ☐ Focal ☐

4- Seizure frequency (during last month): no found ☐ 1 to 4 times ☐

More than 4 times ☐

5- The time of the seizure during wake up ☐ during sleep ☐ Both ☐

6- How often to take antiepileptic therapy: Once ☐ twice or more ☐

7- The extent of adherence to treatment: committed ☐ Uncommitted

8- The child has other diseases: yes ☐ No ☐

If the answer is yes, please write the name of the disease ☐

(Part three)

Stigma assessment

N	Item	Always	Some-times	Never
1	He believes that people who know about his condition they deal with him differently.			
2	He has problems in developing relationships with his peers due to the presence of an epileptic seizure.			
3	He thinks the others would rather not be with him because of the seizure.			
4	He feels embarrassed about the seizure occurs			
5	He feels ashamed of telling others about his epileptic seizure.			
6	He thinks other people are uncomfortable with him because of the seizure condition.			
7	He believes that having an epileptic seizure leads to stigma to others.			

Part four

Quality of life Among Children with Epilepsy QOLCE-43 Items

SECTION 1: YOUR CHILD COGNITIVE FUNCTIONING

Compared to other children of his/her own age, how often during the past 4 weeks has your child:

Item	Always	Some-times	Never
1- Had difficulty doing something?			
2. Had difficulty solving problems?			
3. Had difficulty keeping track of conversations?			

4- He had difficulty concentrating when reading?			
5- He had difficulty in completing each work separately?			
6- Slow reactions to what is said or done in front of him.			
7- He found it difficult to remember things?			
8- He found it difficult to remember people's names?			
9- He had difficulty remembering what was said to him?			
10. Had trouble remembering things s/he read hours or days before?			
11. Planned to do something then forgot?			
12. Had trouble finding the correct words?			
13- He found it difficult to understand what was being said to him?			
14. Had trouble understanding directions?			
15. Had difficulty following instructions?			
16. Had trouble understanding what s/he read?			
17. Had trouble writing?			

SECTION 2: YOUR CHILD EMOTIONAL FUNCTIONING

During the past 4 weeks, how much of the time do you think your child:

Item	Always	Some-times	Never
1. Felt sad or depressed?			
2. Worried a lot?			

3. Felt confident?			
4. Felt excited or interested in something?			
5. Felt pleased about achieving something?			
6. Felt no one understood him/her?			
7. He feels that no one cares about him?			

Compared to other children his/her own age, how often during the past 4 weeks do each of the following: statements describe your child?

Items	Always	Some-times	Never
8. was socially inappropriate (he said or did something inappropriate.			
9. He got angry fast.			
10. Hit or assault someone.			
11. Insulting or cursing in public.			
12. Was obedient.			
13. Was demanded a lot of attention			

SECTION 3: YOUR CHILD SOCIAL FUNCTIONING.

Please try to answer all questions as well as you can, even if some do not seem to apply to your child.

3.1 During the past 4 weeks, how often has your child epilepsy:

Items	Always	Some-times	Never
1. Limited his/her social activities (visiting friends, close relatives, or neigh bours)?			
2. Affected his/her social interactions at school or work?			
3. Limited his/her relaxation activities (hobbies or interests)?			
4. Isolated him/her from others?			

5. Made it difficult for him/her to keep friends?			
6. Frightened other people around him?			

Items	Yes, limited a lot	limit a little	No, not limited
7. During the past 4 weeks, how limited are your child social activities compared with others his/her age because of his/her epilepsy or epilepsy-related problems?			

SECTION 4: YOUR CHILD PHYSICAL FUNCTIONING

The following questions ask about physical activities your child might do.

4.1. In his/her daily activities during the past 4 weeks, how often has your child:

Items	Always	Some-times	Never
1. Needed more supervision than other peers his/her age?			
2. Played freely in the house like other peers his/her age?			
3. Playing or sleeping outside the house with friends and relatives?			
4. Gone swimming (i.e., swam independently)?			
5. Participated in sports activities (other than swimming)?			
6. Been able to do the physical activities other peers his/her age do?			

الجزء الاول

أ المعلومات الديموغرافية للوالدين

1- عمر الأب ☐ سنة عمر الأم ☐ سنة

2- السكن: مدينة ☐ ريف ☐

3- المستوى التعليمي للاب : لايقرأ ولايكتب ☐ ابتدائية ☐

ثانوية ☐ بكالوريوس واعلى ☐

4- المستوى التعليمي للأم : لاتقرأ ولاتكتب ☐ ابتدائية ☐ ثانوية ☐

بكالوريوس واعلى ☐

5- الحالة الوظيفية للأب : موظف ☐ غير موظف ☐

6- الحالة الوظيفية للام : موظفة ☐ غير موظفة ☐

7- - الدخل الشهري للعائلة : يكفي ☐ يكفي الى حد ما ☐ لا يكفي ☐

8- عدد افراد الاسرة : ☐

الجزء الاول

ب - المعلومات الديموغرافية للطفل

1- العمر : ☐ سنة

2- الجنس : ذكر ☐ انثى ☐

3- المستوى الدراسي : لايقرأ ولايكتب ☐ ابتدائية ☐ ثانوية ☐

4- تسلسل الطفل في العائلة ☐

الجزء الثاني

العوامل المرتبطة بالاطفال المصابين بالصرع والمؤثرة على جودة الحياة

1- عمر الطفل عند التشخيص ☐

2- فترة الاصابة: اقل من 3 سنوات ☐ من 3-5 سنوات ☐ اكثر من 5 سنوات ☐

3- نوع الصرع: عام ☐ جزئي ☐

4- تكرار النوبات خلال اخر شهر: لا توجد ☐ من 1الى 4 مرات ☐ اكثر من 4 مرات ☐

5- وقت حدوث النوبة: خلال الاستيقاظ ☐ خلال النوم ☐ كلاهما ☐

6- عدد مرات اخذ العلاج المضاد للصرع: مرة واحدة ☐ مرتان او اكثر ☐

7- مدى الالتزام بالعلاج: ملتزم ☐ غير ملتزم ☐

8- الطفل لديه امراض اخرى : نعم ☐ لا ☐

اذ كانت الاجابة بنعم يرجى كتابة اسم المرض ☐

الجزء الثالث

(Stigma scale)

ت	الاسئلة	دائما	احيانا	ابدا
1	يعتقد ان الناس الذين يعرفون بحالته يعاملونه بطريقة مختلفة.			
2	لديه مشاكل في تطوير العلاقات مع اقرانه بسبب وجود نوبة الصرع .			
3	يعتقد أن الآخرين يفضلون عدم التواجد معه بسبب حالة النوبة.			
4	يشعر بالحرج من حالة حدوث النوبة.			
5	يشعر بالخجل من اخبار الاخرين حول نوبة الصرع .			

6	يعتقد أن الآخرين غير مرتاحين معه بسبب حالة حدوث النوبة.			
7	يعتقد ان نوبة الصرع تؤدي الى وصمة عار اما الاخرين.			

الجزء الرابع

استبانة عن جودة الحياة لدى الأطفال المصابين بالصرع QOLCE 43

التعليمات

بين أيديكم استبانة تعنى بدراسة جودة الحياة لدى الأطفال المصابين بالصرع وهي تهدف إلى تقييم صحة وسلامة طفلك .فضلًا التكرم بالإجابة و ذلك بوضع إشارة داخل المربع المناسب، قد تبدو بعض الأسئلة متشابهة و لكن هناك فروق دقيقة بينها .علمًا بأن بعض الأسئلة قد تشير الى مشاكل غير موجودة لدى طفلك، نرجو الإجابة عنها لأهميتها في النتائج .لا توجد إجابة صحيحة أو خاطئة .في حال عدم التأكد من إجابة سؤال ما، نرجو محاولة الإجابة قدر المستطاع.

البند الاول :الوظائف الإدراكية لدى طفلك:

الأسئلة التالية تشير إلى بعض المشكلات لدى الأطفال من ناحية التركيز، الذاكرة، ، اللغة.مقارنة بأقرانه في نفس الفئة العمرية، كم مرة خلال الأربع الأسابيع الماضية:

الاسئلة	دائما	احيانا	ابدا
1- واجه صعوبة في القيام بعمل معين.			
2 - واجه صعوبة في حل مشكلة معينة.			
3 - واجه صعوبة في الاسترسال في محادثة.			
4 - واجه صعوبة في التركيز عند القراءة.			
5 - واجه صعوبة في إنجاز كل عمل على حدة.			
6 - ردود أفعال بطيئة لما يقال له أو يفعل أمامه.			
7 - وجد صعوبة في تذكر الأشياء.			
8 - وجد صعوبة في تذكر أسماء الأشخاص.			
9 - وجد صعوبة في تذكر ما قيل له.			
10 - وجد صعوبة في تذكر ما قرأ خلال الساعات أو الأيام الماضية			
11 - خطط لعمل شيء ثم نسى.			
12 - وجد صعوبة في إيجاد الكلمات الصحيحة.			
13 - وجد صعوبة في فهم ما يقال له.			
14 - وجد صعوبة في فهم الاتجاهات.			
15 - وجد صعوبة في اتباع التعليمات.			

16 - وجد صعوبة في فهم ما قرأ.			
17 - وجد صعوبة في الكتابة.			

البند الثاني :الوظائف العاطفية لدى طفلك:

الأسئلة التالية تصف أحاسيس طفلك بصفة عامة.

١.٢ - خلال الأربع الأسابيع الماضية كم من الوقت تعتقد أن طفلك:

الاسئلة	دائما	احيانا	ابدا
18. حزين أو مكتئب.			
19. كثير القلق.			
20. واثق من نفسه.			
21. متحمس أو مهتم لشيء ما.			
22. سعيد بإنجاز معين.			
23. يشعر بأن لا أحد يفهمه.			
24. يشعر ان لا أحد يهتم به .			

الجمل التالية تصف تصرفات بعض الأطفال .نرجو منك المحاولة في إجابة جميع الأسئلة بقدر استطاعتك حتى لو لم تكن تنطبق على طفلك.

مقارنة بأقرانه في نفس الفئة العمرية، كم مرة خلال الأربع الأسابيع الماضية تنطبق الحالات التالية على طفلك:

الاسئلة	دائما	احيانا	ابدا
25. كان غير لائق اجتماعيًا (قال أو فعل شيء غير ملائم.)			
26. غضب بسرعة.			
27. ضرب أو تعدى على أحد.			
28. سب أو شتم في العلن.			
29. كان مطيعًا.			
30. كان متطلبًا للفت الانتباه			

البند الثالث :الوظائف الاجتماعية لدى طفلك:

الجمل التالية تصف تصرفات بعض الأطفال من خلال تفاعلاته و أنشطته الاجتماعية .نرجو منك المحاولة في إجابة جميع الأسئلة بقدر استطاعتك حتى لو لم تكن تنطبق على طفلك .خلال الأربع الأسابيع الماضية ما مدى تأثير حالة الصرع على طفلك:

الاسئلة	دائما	احيانا	ابدا
31. محصورة في الأنشطة الاجتماعية (زيارة الأصدقاء، الأقارب، الجيران)			
32. أثرت على تفاعله الاجتماعي في المدرسة أو العمل.			
33. حصرت أنشطته الترفيهية (الهوايات أو الاهتمامات.)			
34. عزلته عمن حوله.			
35. صعبت عليه الحفاظ على صداقاته.			
36. أخافت من حوله.			
	نعم، محدود جدًا	**محدود قليلًا**	**لا غير محدودة**
37. خلال الأربع الأسابيع الماضية ما مدى تأثير الصرع ومشاكله على أنشطة طفلك الاجتماعية مقارنة بأقرانه.			

البند الرابع :الوظائف البدنية لطفلك:

الأسئلة التالية تدور حول الأنشطة البدنية التي قد يمارسها طفلك.

١.4 في الأربع الأسابيع الماضية و من خلال أنشطته اليومية إلى أي مدى:

	دائما	احيانا	ابدا
38. احتاج إلى رقابة أعلى من أقرانه.			
39. لعب بحرية في المنزل كأقرانه.			
40. لعب او بات خارج المنزل مع الاصدقاء والاقارب.			
41. ذهب للسباحة (سبح بمفرده.)			
42. اشترك في أنشطة رياضية (غير السباحة.)			
43. استطاع أن يقوم بالأنشطة البدنية التي يقوم بها أقرانه.			

Reference

Goodwin SW, Lambrinos AI, Ferro MA, Sabaz M, Speechley KN. Development and assessment of a shortened Quality of Life in Childhood Epilepsy Questionnaire (QOLCE-55). Epilepsia, 2015;56(6):864-72.

Austin, J., Dunn, D., Huster, G., Rose, D. (1998). Development of scales to measure psychological care needs of children with seizures and their parents. Journal of Neuroscience Nursing, 30: 155-160.

Appendix E

Linguist Expert Certification

Ministry of Higher Education and Scientific Research
University of Babylon
college of Basic Education

وزارة التعليم العالي والبحث العلمي
جامعة بابل
كلية التربية الاساسية

Ref No
Date / /

الى/ جامعة بابل / كلية التمريض

م/ تقويم لغوي

نهديكم اطيب التحيات ...

كتابكم ذو العدد ٢٠٩٣ في ٢٠٢٣/٥/٢٩ نعيد اليكم اطروحة طالب الدراسات العليا / الدكتوراه (**مصطفى كريم جواد حسون**) الموسومة بـ (**نوعية الحياة والعوامل المرتبطة بها لدى الأطفال المصابين بالصرع**) بعد تقويمها لغوياً واسلوبياً من قبل (م . **حياة حسن كاظم**) وهي صالحة للمناقشة بعد الاخذ بالملاحظات المثبتة على متنها.

...مع الاحترام ...

المرفقات/

- رسالة ماجستير
- قرار المقوم اللغوي

أ.د. فراس سليم حياوي
معاون العميد للشؤون العلمية
٢٠٢٣/٦/ ١١

نسخة الى/
- مكتب السيد العميد المحترم ... للتفضل بالاطلاع مع الاحترام
- م. حياة حسن كاظم
- شؤون العلمية
- حفظاً

زينب//

STARS
RATED FOR EXCELLENCE

basic@uobabylon.edu.iq

مكتب العميد ٢١٨٤
معاون العلمي ٢١٨٨
معاون الاداري ٢١٨٩

وطني : ٠٢٣٠٠٣٥٧٤٤
اسية : ٠٧٦٠١٢٨٨٥٢٠

الخلاصة

خلفية الرسالة: الصرع مرض عالمي ومستمر في الارتفاع بين الأطفال والمراهقين، قد يكون له آثار مدمرة على الصحة والنمو فضلا عن المشاكل النفسية والوصمة الاجتماعية المنتشرة بشكل شائع بين الأطفال لذلك يمكن أن يكون للصرع تأثير سلبي كبير على نوعية الحياة الجسدية والعاطفية والاجتماعية والنفسية.

المنهجية: تم تصميم دراسة مقطعية (وصفية) أجريت على الأطفال المصابين بالصرع في مركز العلوم العصبية بمحافظة الديوانية. هدفت الدراسة إلى تقييم نوعية الحياة والعوامل المرتبطة بها لدى الأطفال المصابين بالصرع.

عينة غير احتمالية (هادفة) ضمت (106) من اباء الأطفال (في سن المدرسة والمراهقين) المصابين بالصرع. تتكون أدوات الدراسة من مقياس موجز لنوعية الحياة (QOLCE43) تم تعديله من (استبيان نوعية الحياة في صرع الطفولة 55) لتقييم نوعية حياتهم، وكذلك أسئلة حول الخصائص الديموغرافية للأطفال وأولياء أمورهم.

النتائج: وجدت الدراسة أن أعلى نسبة (48) ٪ من الأطفال تتراوح أعمارهم بين 11-15 سنة. وأكثر من نصف العينة من الذكور، و64٪ من العينة كانت المستوى التعليمي في المدارس الابتدائية. تم تشخيص أقل من نصف العينة بعد 7 سنوات، وكان 38.7٪ من الأطفال لديهم مدة الاصابة بالصرع تراوحت بين 3-5 سنوات، وكان 63.2٪ يعانون أيضًا من الصرع المعمم. بينما كان أقل من ثلثي الأطفال لديهم 1-4 نوبات متكررة خلال الشهر. أكثر من نصفهم كانوا ملتزمين بتناول العلاجات، ولم يكن لدى غالبية الأطفال أمراض أخرى، وكشفت نتائج الدراسة الأخرى (50.9٪) مستوى متوسط من نوعية الحياة، ولكن (60.4٪) لديهم مستوى عالٍ من الوصمة.

الاستنتاجات والتوصيات: خلصت الدراسة إلى أن التقييم العام لنوعية حياة الأطفال المصابين بالصرع كان متوسطا، كما أن معظم الأطفال لديهم مستوى عالٍ من الوصمة وايضا هناك علاقة معنوية بين بعض العوامل والخصائص الديموغرافية ونوعية الحياة لدى الأطفال المصابين بالصرع. أوصت الدراسة بضرورة العمل على تحسين نوعية الحياة للأطفال المصابين بالصرع من خلال التركيز على الوظائف الجسدية والعاطفية والاجتماعية والمعرفية من خلال إشراكهم في الأحداث المدرسية أو الأنشطة الخاصة وكذلك خلق برامج توعوية وتثقيفية للآباء والأطفال المصابين بالصرع حول المرض وكيفية التعامل معه والوصمة المرتبطة به من خلال الراديو والتلفزيون وكذلك وسائل التواصل الاجتماعي.

جمهورية العراق
وزارة التعليم العالي والبحث العلمي
جامعة بابل- كلية التمريض

نوعيـة الحيـاة والعوامـل المرتبطـة بها لـدى الأطفـال المصابيـن بالصـرع: وجهة نظر الوالدين

أطروحة تقـدم بـها

مصطفى كريم جواد

الى فـرع تمـريض صحـة الطفـل والمراهـق
كليـة التمـريض – جامعـة بـابـل
كجزء من متطلبات نيل شهـادة الدكتـوراه –
فلسفة فـي التـمريـض

بأشراف

الاستاذ الدكتورة نهاد محمد قاسم

ايار 2023 ميلادية **ذو القعدة 1444هجرية**