

**KNOWLEDGE, ATTITUDE AND PERCEPTION OF
UNDERGRADUATE OF UNIVERSITY OF BENIN, EDO STATE,
NIGERIA TOWARDS EPILEPSY**

BY

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BMS1902461

**A PROJECT SUBMITTED TO THE DEPARTMENT OF
PHYSIOTHERAPY, SCHOOL OF BASIC MEDICAL SCIENCES,
COLLEGE OF MEDICAL SCIENCES, UNIVERSITY OF BENIN,
IN PARTIAL FULFILMENT OF THE REQUIREMENT FOR
THE AWARD OF BACHELOR OF PHYSIOTHERAPY (B.PT)
DEGREE**

APRIL, 2024

CERTIFICATION

This dissertation by Adegroye, Precious Oluwaseyi is accepted in its present form as satisfying the dissertation requirement of the degree of the degree of Bachelor of Physiotherapy of the School of Basic Medical Sciences, College of Medical Sciences, University of Benin.

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DEDICATION

This dissertation is dedicated to God and to individuals who has suffered stigmatization due to the misconceptions on the topic of epilepsy. I hope the results from this study triggers sensitization about epilepsy among students.

ABSTRACT

Background/Aim of study: Epilepsy remains a stigmatized disease due to lack of information and illiteracy has been blamed as the cause of the stigmatization. This stigmatization stems from the fact that the traditional African belief views epilepsy as a spiritual disease. There had been studies to assess the Knowledge, attitude, and perception towards epilepsy. However, there is limited research on the knowledge, attitude and perception of undergraduates of the University of Benin towards epilepsy. The aim of this study was to assess the knowledge, attitude of Undergraduates of University of Benin towards Epilepsy.

Methods: This cross sectional study recruited 398 participants via purposive sampling technique. A self-administered questionnaire was used to obtain data from the participants. The data was then analyzed using descriptive statistics. Mann-Whitney and Spearman correlation tests were used to assess the variables. The alpha level was at 0.05.

Results: The findings revealed 68.9% of the respondents had good knowledge of epilepsy, 250(71.4%) of the respondents had positive attitude towards epilepsy and patients with epilepsy. A positive significant correlation between the knowledge and the attitude ($\rho=0.310$, $p<0.001$), a positive significant correlation between the knowledge and the age of the respondents ($\rho=0.355$, $p<0.001^*$). There was also a positive significant correlation between the knowledge and the level of the respondents ($\rho=0.896$, $p<0.001^*$).

Conclusion: The good knowledge of epilepsy demonstrated by the respondents has translated to a positive attitude towards patients with epilepsy. The finding may have reported good knowledge and positive attitudes among the respondents, however, there is still an obvious need for an improvement in knowledge and attitude among the respondents. Further studies are needed to determine methods of overcoming these negative attitudes and misconception.

Keywords: Knowledge, Attitude, Perception, Undergraduates, Epilepsy

ACKNOWLEDGEMENT

I extend my heartfelt gratitude to God for His guidance and protection throughout my time at this institution.

My special appreciation goes to my Project Supervisor Prof. J. O Umunnah for his invaluable supervision and guidance, and to my Head of Department Rev. Sister (Dr.) Henrietta Fawole for her continuous support.

I am indebted to the Department of Physiotherapy, University of Benin, particularly Prof. Kayode I. Oke the Pioneer Head of Department, and all lecturers who Imparted knowledge during my year in school.

A sincere thanks to the Head of Department at UBTH, Dr. Taiwo Oyewumi, and all physiotherapists, corpers, and interns for their contributions.

I express deep gratitude to my parents, Mr. Adegoroye Emmanuel and Mrs. Adegoroye Olajumoke, and my siblings for their unwavering support.

To my friends; Moyin, Josephine, Janet, Faith, Ruth and Flourish thank you for being in my corner and for doing school with me, I love you all so much.

To my squad; Josepha, Davis, Comfort, Favour, Great, Paul, Emmanuel, Temi, my classmates, posting group members, and JCIN UNIBEN family, your encouragement has been invaluable.

Thanks for the camaraderie.

Lastly, I commend myself for perseverance throughout this five-year journey.

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CHAPTER ONE

INTRODUCTION

1.1 Background of study

Epilepsy is a common chronic neurological disorder which is characterized by repetitive seizures which could relatively affect anyone at any age (Jan, 2004). Seizure is an irregular, chaotic release of impulses from brain neurons that causes a brief disruption of mental, sensory, or motor abilities (Beghi *et al.*, 2010) and they are two types: generalized (convulsions throughout the body accompanied by unconsciousness) and partial (convulsions restricted to one limb) (Holmes, 2016). While epilepsy is a disease characterized by recurring unprovoked seizures, seizures are not the same as epilepsy (Fisher *et al.*, 2005). Excessive electrical discharges in a cluster of brain neurons cause seizure episodes. Such discharges can occur in several brain regions (Baraban, 2008). The frequency of seizures typically varies, ranging from fewer than one per year to multiple bouts daily (Hesdorffer *et al.*, 2007).

Epilepsy is clearly linked to genetics, aberrant brain development, infection, traumatic brain damage, stroke, brain tumors, or other issues that can be identified (National Institute of Health, 2015). According to the area of the body where a seizure occurs, there are three main types of epilepsy: grand mal epilepsy, petit mal epilepsy, and focal epilepsy (Fisher *et al.*, 2017). It is estimated that 50 million people worldwide suffer with this disease, making up 1% of the global illness burden. Nonetheless, the developing world bears the brunt of epilepsy (85%) (Zhang *et al.*, 2013). A point prevalence of 0.4-0.8% (Hauser *et al.*, 2011) and an annual incidence of 20-70 cases per 100,000 are reported (Shorvon, 2013). Between 5 to 10% of 100 people in developing nations are estimated to have active epilepsy (Olubunmi, 2006). But in the general population, it

changes; it is highest in children, peaks between the ages of 15 and 65, and then rises once more in the elderly (Shorvon, 2013; Hauser *et al.*, 2011; Olubunmi, 2006). Despite the high prevalence rates, there is a probability that underreporting exists, meaning that the reported incidence is likely only the "tip of the iceberg" (Hauser *et al.*, 1991; Olubunmi, 2006). According to established communities, the prevalence in Nigeria ranges from 15 to 37 per 1000 people. The high frequency and incidence of epilepsy have a significant impact on socioeconomic factors and drive up direct and indirect economic costs, including medication costs and hospital stays, as well as lost productivity, lost income from unemployment, license suspensions, and early mortality (Kariuki *et al.*, 2015). Therefore, it is clear that epilepsy poses a serious health risk (De Boer *et al.*, 2008; Beghi, 2016).

Historically, epilepsy was thought to be a sacred illness brought on by a god invading the body. It was believed that only a deity could rob a healthy man of his senses, knock him down, cause convulsions, and then quickly return him to normal (Trimble and Reynolds, 2008). Unfortunately, the public's perception of epilepsy has been shaped by this historical legacy, making it an illness to be feared. Patients with epilepsy (PWE) have experienced mistreatment, stigma, and exclusion as a result of these misconceptions. There are major societal repercussions. For example, epileptic patients in Madagascar are not allowed to be buried in their family grave (Osuntokun, 2008). Because many Africans consider epilepsy to be a spiritual illness, PWEs are shunned in many African nations. Witchcraft and poisoning are considered additional potential etiologies in African belief systems. People who have epilepsy (PWE) face challenges in their daily life due to a variety of factors, including these conventional beliefs, poverty, inadequate access to healthcare, and difficulty carrying out their social obligations (Trimble and Reynolds, 2008). A

component of the sociocultural idea is the widespread notion in Africa that epilepsy is communicable and can be transmitted through the excretion of urine, saliva, faeces, or flatus at any time or during a convulsion (Sanya *et al.*, 2005; Tekle-Haimanot *et al.*, 2011; Rwiza *et al.*, 2013). As a result, the patient becomes isolated and observers become reluctant to intervene to keep the patient safe during a seizure. It is also thought that epilepsy can spread from person to person through a variety of means. This results in courtesy stigma, which stigmatizes the friends, family, and companions of those who have epilepsy (Shorvon, 2013). The behavior of seeking health care and its subsequent management are also significantly influenced by societal beliefs. In developing nations like Nigeria, the majority of the population roughly 80% of them lives in rural areas without access to western-style hospitals; instead, they turn to churches, traditional healers, and other sources of care (Ekeh and Ekrikpo, 2015). Anecdotal evidence indicates that some people don't think there is a medical cure for epilepsy.

A significant portion of the global population has been demonstrated to lack knowledge of epilepsy, and to be stigmatized and discriminated against (Bishop and Boag, 2006; Ryu *et al.*, 2015). The public's perception of epilepsy is still shaped by its historical past, making it an illness to be feared. Epilepsy sufferers (PWEs) are marginalized, stigmatized, and misunderstood as a result of these beliefs (Olubunmi, 2006).

1.2 Statement of problem

A crucial element of managing epilepsy is influencing the public's perception. Research suggests that an individual's perspective and level of knowledge about epilepsy affects their attitudes

toward those who have the condition (Fonseca et al, 2004). Research from Brazil (Fonseca et al., 2004) and Scotland (Mason et al., 1990) have found that improving clinical student understanding of epilepsy and their attitudes toward it could significantly enhance patients' quality of life. Better developed and focused educational and awareness programs to dispel myths and enhance community understanding of epilepsy will be made possible by an understanding of the knowledge, attitudes, and perceptions of a broader population. Studies abound that have looked at various societal groups' knowledge, attitudes, and views regarding epilepsy, including PWEs (Yoo *et al.*, 2009), health-care workers (Chomba *et al.*, 2007), teachers (Zanni *et al.*, 2012), school students (Goel *et al.*, 2011), and members of the general public (Neni *et al.*, 2010). However, within the knowledge of the researcher, there is paucity of studies carried out on the knowledge, attitude, and perception towards epilepsy amongst undergraduates of the university of Benin especially those in the healthcare professions, as they will form the future in the care of PLEs.

1.3 Research questions

- i. What is the level of knowledge of epilepsy among the undergraduates of the university of Benin?
- ii. What is the attitude of the undergraduates of the university of Benin towards epilepsy?
- iii. What is the perception of the undergraduates of the university of Benin towards epilepsy?
- iv. Will there be any significant difference in the level of knowledge about epilepsy between the male and female undergraduates of the university of Benin?
- v. Will there be any significant difference in the attitude towards epilepsy between the male and female undergraduates of the university of Benin?

- vi. Will there be any significant difference in the perception about epilepsy between the male and female undergraduates of the university of Benin?
- vii. Will there be any significant difference in the level of knowledge about epilepsy between the undergraduates of the health professions and those not in the health professions of the university of Benin?
- viii. Will there be any significant difference in the attitude towards epilepsy between the undergraduates of the health professions and those not in the health professions of the university of Benin?
- ix. Will there be any significant difference in the perception about epilepsy between undergraduates of the health professions and those not in the health professions of the university of Benin?

1.4 Aim of study

The aim of this study is to assess the knowledge attitude and perception of undergraduates of the university of Benin towards epilepsy.

1.4.1 Specific objectives

The specific objectives of this study will be to:

- i. Determine the level of knowledge of epilepsy among the undergraduates of the university of Benin
- ii. Determine the attitude of the undergraduates of the university of Benin towards epilepsy
- iii. Determine the perception of the undergraduates of the university of Benin towards epilepsy

- iv. Compare the level of knowledge of epilepsy between the male and female undergraduates of the university of Benin
- v. Compare the attitudes of the male and female undergraduates of the university of Benin towards epilepsy
- vi. Compare the perception of the male and female undergraduates of the university of Benin towards epilepsy
- vii. Compare the level of knowledge of epilepsy between undergraduates of the health professions and those not in the health professions of the university of Benin
- viii. Compare the attitudes undergraduates of the health professions and those not in the health professions of the university of Benin?
- ix. Compare the perception of undergraduates of the health professions and those not in the health professions of the university of Benin?
- x. Determine the relationship between some selected sociodemographic and the knowledge of undergraduates of the university of Benin on epilepsy
- xi. Determine the relationship between some selected sociodemographic and the attitude of undergraduates of the university of Benin towards epilepsy
- xii. Determine the relationship between some selected sociodemographic and the perception of undergraduates of the university of Benin towards epilepsy

1.5 Hypotheses

1.5.1 Main hypothesis

- i. There would be no significant difference in the knowledge, attitude and perception about epilepsy between the male and female undergraduates of the university of Benin

- ii. There would be no significant difference in the knowledge, attitude and perception about epilepsy between the health professions and those not in the health professions of the university of Benin
- iii. There will be no significant correlation between some selected demographics and the knowledge of epilepsy among the undergraduates of the university of Benin
- iv. There will be no significant correlation between some selected demographics and the attitude of the undergraduates of the university of Benin towards epilepsy
- v. There will be no significant correlation between some selected demographics and the perception of the undergraduates of the university of Benin towards epilepsy

1.5.2 Sub hypothesis

- i. There would be no significant difference in the level of knowledge about epilepsy between the male and female undergraduates of the university of Benin
- ii. There would be no significant difference in the attitude towards epilepsy between the male and female undergraduates of the university of Benin
- iii. There would be no significant difference in the perception about epilepsy between the male and female undergraduates of the university of Benin
- iv. There would be no any significant difference in the level of knowledge about epilepsy between the health professions and those not in the health professions of the university of Benin
- v. There would be no significant difference in the attitude towards epilepsy between the health professions and those not in the health professions of the university of Benin

- vi. There would be no significant difference in the perception towards epilepsy between the health professions and those not in the health professions of the university of Benin
- vii. There will be no significant relationship between age and the knowledge of epilepsy among the undergraduates of the university of Benin
- viii. There will be no significant relationship between year of study and the knowledge of epilepsy among the undergraduates of the university of Benin
- ix. There will be no significant relationship between age and the attitude of the undergraduates of the university of Benin towards epilepsy
- x. There will be no significant relationship between year and the attitude of the undergraduates of the university of Benin towards epilepsy

1.6 Significance of study

- i. This study may contribute to the body of knowledge on the knowledge, attitude and perception about epilepsy
- ii. The findings from this study may help influence the attitude and perception of the population under study towards individuals with epilepsy. It can help identify gaps or areas in the knowledge, attitude and perception of epilepsy by undergraduate students that need to be addressed via educational policies and health awareness programs.
- iii. The behavior of seeking health care and its subsequent management may also be significantly influenced by the findings from this study.

1.7 Scope of the study

This study is delimited to;

- i. Male and female undergraduates of the university of Benin
- ii. Undergraduates who are willing to participate in the study

1.8 Limitations

- i. The response from the respondents was self-reported and as such it was subject to a recall bias.

1.9 Definition of terms

- i. **Knowledge:** Knowledge is the state of knowing about something or familiarity with a subject, place, situation et cetera. It is also an awareness of a particular fact or a state of been informed (Oxford Advanced Learner's Dictionary, 2008)
- ii. **Attitude:** Attitude is the way that one feels about something or somebody; the way that one behaves towards something or somebody that shows how one thinks or feels (Oxford Advanced Learner's Dictionary, 2008)
- iii. **Perception:** perception is the way in which something is regarded, understood, or interpreted.
- iv. **Epilepsy:** Epilepsy is a common chronic neurological disorder which is characterized by repetitive seizures which could relatively affect anyone at any age (Jan, 2004).

1.9 List of abbreviations

WHO: world Health Organizations

PWE: Patients with Epilepsy

CHAPTER TWO

LITERATURE REVIEW

2.1 Concept of epilepsy

According to Gilmour et al. (2018), epilepsy is a chronic neurological disorder marked by spontaneous seizures that can range in severity from a loss of consciousness to a concentration slip. According to the World Health Organization, excessive electrical discharges in a cluster of brain cells cause epilepsy. Such discharges can occur in several brain regions. Epilepsy can vary from the briefest lapses of attention or muscular twitches to severe and continuous convulsions. In addition, its frequency varies, ranging from fewer than one per year to several per day (World Health Organization, 2019). Approximately 50 million individuals globally suffer from epilepsy or seizures, with 80 percent of them residing in underdeveloped nations like Nigeria. With an estimated 230,000 identified instances, epileptic sufferers are thought to account for 1% of Malaysia's total population and impact people of all racial, age, and gender backgrounds (New straits times, 2018). According to Elhassan et al. (2017), 89% of the world's population suffers from epilepsy, with 5-10 cases of active epilepsy per 1000 persons in underdeveloped nations. Additionally, as schoolchildren are among the populations impacted by epilepsy, negative

attitudes toward them can result in learning difficulties, bodily harm, and social isolation. Lower parental anxiety is correlated with parents' understanding about epilepsy. Knowledge about epilepsy can help reduce social isolation, stigma, and depressed symptoms. Furthermore, parents' attitudes toward children with epilepsy are significantly influenced by the depth of their knowledge of the disease. The most frequent neurological condition in children is epilepsy. Epilepsy-related prejudice and unfavorable attitudes are examples of socio-cultural barriers. Furthermore, people with epilepsy and their families make significant decisions about their course of treatment based on their ideas about causality. Parents of children with epilepsy may seek help based on their cultural and religious beliefs, which may have an impact on how well they manage their child's epilepsy. Since traditional healing methods are offered in nearby towns by people the family knows, they are regarded as the initial course of treatment for childhood epilepsy. As a result, the family feels more at ease talking about their child's condition. Additionally, traditional healers offer acceptance and support through adaptable payment plans that let the family use alternate means (Rani & Thomas, 2019). According to Masri et al. (2017), the majority of parents reported utilizing complementary and alternative medications to treat their child's epilepsy. These treatments included visiting religious healers, using herbs, wearing metallic bracelets, and massaging the child with wool or sand. In addition, individuals who have epilepsy experience social stigma, miscommunication, prejudice, and stress from having a chronic, unpredictable illness that can take away their ability to do everyday tasks independently (Riny *et al.*, 2022). Families conceal the condition so that the affected individual and other family members can get married, and individuals with epilepsy have trouble finding employment. In addition, obtaining a driver's license can be difficult, and in many nations, getting health

insurance can be difficult as well (Adjei *et al.*, 2018). Because of its legendary origins, like demonic possession, epilepsy is still regarded as a medical ailment. A person is more likely to experience mockery and shame the more frequently they experience epileptic seizures (Akyuz *et al.*, 2021). As one of the most prevalent nervous system disorders, epilepsy is a brain ailment that results in seizures in children, according to Stanford Children's Health. When aberrant electrical impulses burst into one or more brain regions and interfere with regular brain signals, the result is a seizure.

2.2 Epidemiology of epilepsy

Worldwide, there are differences in the incidence and prevalence of epilepsy depending on the nation, with adolescents and the younger age group seeing a higher prevalence than other age groups (Shakirullah *et al.*, 2019). According to Ghaydaa (2021), epilepsy is a neurological condition that affects 5 to 10 people out of every 1000 worldwide. An estimated 3% of the population is thought to have epilepsy, and the majority of epileptic episodes occur in childhood. (Brunner & Suddarth, 2013). An estimated 50 million people worldwide are thought to have epilepsy; of them, approximately 75% reside in nations with limited resources and little access to medical care (Rugg-Gunn & Stapley, 2017). According to estimates, the incidence of epilepsy in affluent countries is between 40 and 70 cases per 100,000 people annually, with a range of 100 to 190 cases per 100,000 people annually in underdeveloped countries. ((Rugg-Gunn & Stapley, 2017).

With Kenya as an example, the mean annual incidence of epilepsy in sub-Saharan Africa is predicted to be 69.4 per 100000. ((Rugg-Gunn & Stapley, 2017). The frequency of epilepsy in

Egypt is 6.98 cases per 1000 people (El Tallawy et al., 2020). According to Rugg-Gunn and Stapley's (2017) citation of a systematic review by Kotsopoulos et al., the median yearly incidence of epilepsy is 50.7 per 100000 for males and 46.2 per 100000 for females. Thus, it can be inferred that men are more likely than women to have epilepsy. Ecuador has the highest incidence and prevalence of the disease in South America, with an incidence rate of 122 per 100,000 people year; this number indicates that the condition tends to be higher in developing countries than a developed nation (Rugg-Gunn & Stapley, 2017). The prevalence of epilepsy in Pakistan is one case per 1000 people. In India, the incidence rate is 50 per 100,000, while the prevalence rate is 5 per 1000. In China, the incidence of the disease is just 28.8 to 35.0 per 100,000 people year, whereas the prevalence is 3.6 per 1000 people. The prevalence rate in the United States is 5.1 in North America and 7.1 in Mississippi. The prevalence of epilepsy in Central America varies from 3.7 to 22.2 cases per 1000 people. The prevalence rate in Africa ranges from 22 to 58 per 1000, with an average of 15.83. Sudan has a low prevalence, with roughly 0.9 per 1000 (Shakirullah et al., 2019). The frequency of epilepsy was found to be 6.0 (95% CI: 5.9-6.0) per 1000 people in a study conducted by Ezeala-Adikaibe et al. (2013) to ascertain the prevalence of active convulsive epilepsy and treatment gap in two urban slums in Enugu state, south-east Nigeria. Men make up 4.4 out of 1000 (95% CI: 2.3-6.4), whereas women make up 7.8 out of 1000 (95% CI: 4.9-10.5).

2.3 Pathophysiology of epilepsy

The most prevalent severe and long-lasting neurological condition in the world is epilepsy. Brain tumors, degenerative illnesses, vascular ailments, meningitis, encephalitis, and other infections can all be the reason. Toxic chemicals, drug misuse, and alcohol abuse might also be

contributing factors. It has been reported to be caused by or connected to avoidable parasite infections such neurocysticercosis, malaria, and schistosomiasis. It is more prevalent in developing nations. Some of the causes, nevertheless, are unknown. It transcends age, race, social class, country, and location. About half of the cases are thought to start in childhood or adolescence (WHO, 2014). To comprehend how epilepsy develops, it is crucial to have a basic understanding of how the brain works. Millions of nerve cells, or neurons, plus the supporting tissues that house them make up the brain. Every neuron sustains an electrical charge inside itself. It transfers electrical signals to other neurons after receiving them from other neurons. From the terminals of one neuron, a minuscule amount of a unique neurotransmitter material is released, which causes an electrical reaction in the neuron that is next in line and sends the signal forward. Neurons in the brain transmit electrical messages to other neurons, which is necessary for many brain processes, including feeling, seeing, thinking, and controlling muscles. The brain often accomplishes this by consistently producing ordered electrical cycles. An epileptic seizure results, when this order is interrupted by some neurons discharging impulses improperly (Gao *et al.*, 2023). Epilepsy may result from anything that disrupt with the wiring of the brain.

According to the American Academy of Pediatrics, seizure is a sudden stereotyped episode with changes in motor activity, sensation or behavior that is due to abnormal discharge of neurotransmitters in the brain. The academy further classified the causes of seizures to be;

- i. Provoked seizure: A provoked seizure is a seizure with an acute antecedent cause such as central nervous system factor (meningitis, encephalitis), trauma, metabolic abnormality (abnormal level of glucose and insulin), toxic exposure, fever

- ii. Unprovoked seizure: In unprovoked seizure, there is no immediate provoking factor.

With a background knowledge of seizures, the major academic bodies against epilepsy; The International League Against Epilepsy (ILAE) and the International Bureau for Epilepsy (IBE) has reached a decision-making for the definition for the term epileptic seizure and epilepsy. According to these bodies, an epileptic seizure is a transient occurrence of signs and/or symptoms due to abnormal excessive or synchronous neuronal activity in the brain; on the other hand, epilepsy is a disorder of the brain characterized by an enduring predisposition to generate epileptic seizures and by neurologic, cognitive psychological and social consequences of this condition. As a result of poor understanding of the public with regards to epilepsy been a disorder, the ILAE and IBE came into an agreement that epilepsy should rather be considered as a disease than a disorder (Fisher *et al.*, 2014). It is worthy to note that the definition of epilepsy has a conceptual (general or broad) definition and an operational (practical or clinical) definition by which clinicians can relate with to diagnose the condition (Fisher *et al.*, 2014).

The conceptual definition of epilepsy as given by the International League Against Epilepsy and the International Bureau for Epilepsy as a disorder of the brain that is characterized by an enduring predisposition to generate epileptic seizures, and by the neurologic, cognitive psychological and social consequences. However, the practical or clinical or operational definition as also given by these bodies defines epilepsy by the following parameters:

- i. At least two unprovoked or reflex seizures occurring greater than 24hrs apart

- ii. One unprovoked or reflex seizure and a probability of further seizures similar to the general recurrence risk (at least 60%) after two unprovoked seizures occurring over the next 10 years
- iii. Diagnosis of epilepsy syndrome (Fisher *et al.*, 2014).

2.4 Classification of epilepsy

There are three types of epilepsy: uncertain onset, generalized onset, and focal onset. When focal epilepsy spreads quickly, it might result in a tonic-clonic seizure, also referred to as a convulsion or "grand mal" seizure. It is unclear (unknown) if epilepsy is focal, generalized, or both in specific situations. When abnormal electrical activity starts on one side of the brain, it is called a focal seizure. Different symptoms can accompany focal seizures, depending on where the aberrant electrical discharges originate and how quickly they travel across the brain. A single arm or leg is jerked. When abnormal electrical activity appears to start simultaneously on both sides of the brain and spread via the neural network, it is known as a generalized seizure. There is a range of different generalized epilepsy. These include absences, in which the afflicted person becomes completely unaware for a few seconds, leaving them staring blankly. In addition, signs and symptoms include lip movement and eyelid flashing will manifest (Brodie *et al.*, 2018). The kids might not remember what happened just now. Kids could carry on with their activity as if nothing had happened. These seizures could happen multiple times a day. Sometimes, people confuse this kind of seizure for a behavioral or learning disability. Between the ages of 4 and 12, absence seizures nearly always begin (Stanford Children's Health, 2019). Moreover, focused and generalized seizures is a category composed of persons who suffer both focal and generalized

seizures. Unknown is a categorization of seizure which is the doctor cannot tell whether the epilepsy is localized or generalized (Brodie *et al.*, 2018).

The International League Against Epilepsy (ILAE), which is the world's main scientific body dedicated to the study of epilepsy released a new classification of seizure types in 2017, and this classification is based largely on the existing classification formulated in 1981. Based on this, epileptic seizures are divided into groups depending on:

- i. Where they start in the brain (onset)
- ii. Whether or not a person's awareness is affected
- iii. Whether or not seizures involve other symptoms such as movement

Depending on where they start in the brain (onset), seizures are described as being:

- i. Focal onset
- ii. Generalized onset
- iii. Unknown onset

Focal Onset

Based on their initial location within the brain. One specific area of the brain is the focus of a focal onset seizure. It is also referred to be the seizures' "focus." It may impact a tiny area in one of the lobes or a substantial portion of one hemisphere. Bilateral focal onset refers to the situation where a focal seizure spreads to both sides of the brain in specific circumstances. In addition, a focused seizure follows with a warning signal and this is what is called a **←aura→** (ILAE, 2017).

Based on Level of Awareness

Another way to categorize seizures is based on the person's state of awareness at the moment of the seizure. This denotes that the individual is conscious of their seizure and their surroundings at the time of the seizure. Seizures are classified into the following categories based on the individual's consciousness level:

- i. **Focal aware seizure (FAS):** A focal aware seizure previously called a partial seizure occurs when a person is conscious, aware, and alert during a seizure. They typically remember the seizure after it has occurred. The person may "feel strange" during a focused seizure, but they won't be able to explain it afterward.
- ii. **Focal impaired awareness seizure (FIAS):** A greater portion of one hemisphere of the brain is affected by focal impaired awareness seizures, also referred to as complex-partial seizures. The individual's consciousness is impacted in this situation, and they could feel bewildered and confused. Though it can exist in other areas of the brain as well, FIAS frequently occurs in the temporal lobes. It can be challenging to determine when a seizure has ended, and it is frequently referred to as "post-ictal" or "after-seizure" disorientation. Depending on whether additional symptoms, like movement, are present during seizures. The location and kind of brain tissue involved in a seizure determines what happens during focal aware and focal impaired awareness seizures. While non-motor symptoms are peculiar feelings or sensations, motor symptoms are the movements associated with some focal seizures. Motor symptoms include the following:
 - i. Making lip-smacking or chewing movements, repeatedly picking up objects
 - ii. Suddenly losing muscle tone and limbs becoming floppy or stiff
 - iii. Repetitive jerking movements that affect one or both sides of the body

- iv. Making a loud cry or scream and;
- v. Making strange postures or repetitive movements such as cycling or kicking

Non-motor symptoms include the following,

- i. A rising feeling in the stomach
- ii. Getting an unusual smell or taste
- iii. A sudden intense feeling of fear or joy
- iv. A strange feeling like a wave going through the head Stiffness or twitching in part of the body e.g. in the arm or leg
- v. A feeling of numbness or tingling
- vi. A sensation that an arm or leg feels bigger or smaller than it actually is
- vii. Visual disturbances such as colored or flashing lights or hallucination

Focal to Bilateral Tonic-Clonic Seizures: From one side of the brain to the other, focal to bilateral tonic-clonic seizures occurred. It was formerly referred to as a secondary generalized seizure. A tonic-clonic (convulsive or shaking) seizure takes place during this kind of seizure, which renders the victim unconscious.

Generalized Onset: Generalized onset seizure affects both sides of the brain at once and it happens without warning. The person is often unconscious and will not remember what happened during the seizure. The types of generalized onset seizure are:

- i. Tonic-clonic seizures: These are series of seizures that occur with the following characteristics;

- ii. The person becomes unconscious
- iii. The body becomes stiff and usually falls backwards when standing
- iv. They usually cry out
- v. They may bite their tongue or cheek

During the onset of the seizure the following can occur;

- i. They jerk and shake as their muscles relax and tighten rhythmically
- ii. The breathing might be distorted and become or sound noisy
- iii. The skin may change color and become very pale or bluish
- iv. They may wet themselves
- v. At the end of the seizure and when jerking stops the following can occur;
- vi. The breathing and skin color returns to normal
- vii. They may feel tired, confused, have a headache or want to sleep

It is worthy to note that a person's seizure usually lasts the same length of time they occur and stops on its own. However, sometimes, seizures do not stop or one seizure follows another without the person recovering in between. Whenever this type of seizure occurs, it is termed **status epilepticus** or **status epilepticus**. Status epilepticus is not common but it can occur in any type of seizure.

Clonic seizures: Depending on where the seizure begins, clonic seizures entail rhythmic jerking movements of one side, a portion of the body, or both sides (the entire body). A seizure may begin in one area of the brain and progress to the other or both sides.

Tonic and Atonic seizures: Muscles in a tonic seizure abruptly stiffen. When someone has this kind of seizure while standing, they run the risk of falling back and hurting their back or the head. Tonic seizures tend to be brief and without notice. The muscle abruptly relaxes and becomes floppy during an atonic seizure. When this kind of seizure occurs when the individual is standing, they may fall forward and hurt their face or head first. It is sudden and transient, much like a tonic seizure. Both types of seizures have a rapid recovery rate, despite the potential for damage.

Myoclonic seizures: Myoclonic means ←muscle jerk.→ Muscle jerks are not always due to epilepsy. For example, some persons have them as they fall asleep. Myoclonic seizures are brief but often happen in clusters and shortly after waking. In myoclonic seizures, the person is conscious. Myoclonic seizures are classified as generalized seizure because other forms of seizures such as tonic-clonic seizure tend to occur.

Absence seizures: A petit-mal seizure, often referred to as an absence seizure, is more common in children than in adults and can happen rather frequently. Two types of absence seizures are distinguished:

Typical Absence: There is usually a brief period of darkness and unresponsiveness during an absence. It could seem as though the person is "daydreaming." This seizure may go unnoticed because it happened so quickly. This seizure can cause the person to stop what they are doing, look blank and gaze, or have their eyelids flutter and blink. They won't be aware of anything going on in their immediate surroundings for a while. For instance, if they are walking, they will keep walking even though they have no idea what they are doing.

Atypical absence: Atypical absence is similar to typical absence but it starts and ends more slowly and lasts a bit longer than typical absence. Here, muscle tone goes limp or floppy and falls may occur

Unknown Onset: A seizure with an unclear brain etiology is referred to as having an unknown onset seizure. This kind of seizure might happen if the person was dozing off, by themselves, or if no one else saw them (Fisher et al., 2019).

2.5 Causes of epilepsy

The causes of epilepsy can be classified into two major types which are:

- i. Primary epilepsy
- ii. Secondary epilepsy

Primary epilepsy: Primary epilepsy is also known as idiopathic generalized epilepsy (IGE). Its etiology is unknown, but it is due to genetic deformity rather than any physical or neurological anomaly. Because of the distorted genes in this kind of epilepsy, the gene is susceptible to a low threshold for seizures. Consequently, this type of epilepsy can run in families and be inherited (Brunner & Suddarth, 2018).

Secondary epilepsy: One kind of epilepsy that develops as a result of an underlying illness is called secondary epilepsy. Head injuries, certain infectious diseases like bacterial, viral, and parasitic infections, toxicity like lead and carbon monoxide poisoning, metabolic and nutritional disorders, fever, drug or alcohol intoxication, birth trauma, asphyxia, etc. are some of the causes of this type of epilepsy (Brunner & Suddarth, 2018).

2.6 Management of epilepsy

Antiepileptic medications (AEDs) and brain surgery are the current treatments for epilepsy. AEDs have been shown to have an efficiency rate of 60→70% in all treated cases of epilepsy, helping to gradually reduce the frequency and severity of epileptic episodes. AEDs are used to manage aberrant electrical impulses in the brain by enhancing the inhibitory action on neurons (hyperpolarization) and inhibiting the excitatory action on neurons (depolarization). AEDs are effective, but they also have a number of side effects, including skin rashes, sleepiness, ataxia, bleeding gums, hyperplasia, and even osteoporosis (long-term use). Because brain surgery is more expensive and has a higher chance of causing more problems, it is sometimes used for patients who do not respond well to AEDs. Other than that, epilepsy surgery has proven to be an important treatment for medically resistant epilepsy. The durations of the illnesses before their surgeries ranged from 12 to 47 years. (Fong *et al.*, 2017).

2.7 Knowledge, attitude and perception on epilepsy

According to a study carried out by Shihata et al. (2021) on the knowledge, attitude and perception towards epilepsy among medical students revealed that four hundred thirty-six out of 455 students (98.5%) were aware about epilepsy. However, the level of knowledge varies depending on the educational level of these students, because 88.5% of the students responded that brain injury is the most common cause and 57.3% said it is a genetic disease, while 3.7% stated that it was due to evil spirit. As a treatment method, medication and God→ help were chosen by 95.8% and 57.8%, respectively. Objection to marry an epileptic patient was the most common negative attitude toward epileptics among the participants. Nonetheless, the overall attitude was found to be positive. A similar study was conducted by Ekeh and Ekrikpo among a

University in Uyo in 2015 and it was reported that most of the participants do not have a good knowledge of epilepsy. The knowledge, however, was much better amongst the clinical students. There is some difference in the attitudes of the clinical students compared with the basic students. Kabel et al in 2020 conducted similar study among health-related science college students in Taif, Saudi Arabia and it was reported that More than 80% of the participants have heard or read about epilepsy. About half of them had witnessed a seizure attack. More than three quarters of the participants thought that epilepsy is a neurological disease. In total 97% of the participants stated that convulsions are the main manifestations of epilepsy. In total 77.7% of the participants selected the medical treatment and follow-up as the most effective treatment of epilepsy. More than three quarters of the participants agreed with that epileptic woman can get married and have children. About 90% agreed to work with epileptic persons and become a close friend of them. About half of the participants believed that the equal job opportunity for epileptic and normal persons should be practiced. The knowledge, perceptions, and attitudes of students of health-related science colleges toward epilepsy in Taif were acceptable regarding to this study. However, the negative attitudes and misconceptions still exist. Further studies are needed to determine methods of overcoming these negative attitudes and misconceptions

Furthermore, a study on the knowledge, attitude and perception was carried out among university students in Yemen and it was reported that approximately 23% thought that epilepsy is a form of insanity, and 18% thought that it is a form of mental retardation. About 22% and 10% believed that evil spirits and an evil eye cause epilepsy, respectively. Similarly, 12% believed that children with epilepsy (CWEs) should be isolated from other children, while 12% and 14% thought that PWEs should not get married and should not have children, respectively.

Approximately 23% of the students would not allow their child to play with CWEs, and 37% would not employ PWEs in a clerical job. Furthermore, 64% of the students would not agree to marry PWEs. Some misconceptions were strongly linked to attitudes toward PWEs. The negative attitudes toward PWEs among university students in Yemen were slightly more common compared with other settings in the Middle East and showed significant differences between genders which may warrant consideration when designing educational campaigns (Al-Eryani et al., 2015). Finally, a study was also carried out among Students of Health Occupations in a University on the knowledge and attitude towards epilepsy and it was reported that among the 544 participants, 59.6% were female and the mean age was 21.7 years. While the majority of the sample recognized a generalized tonic-clonic seizure, they did not know about other seizure types. The mean score of the Attitude Scale was 60.2 ± 6.4 (range: 30-70). The attitudes were not different between males and females ($p=0.732$). The students who had a family member with epilepsy ($p=0.004$) or witnessed a seizure ($p=0.05$) and attended upper classes had a more positive attitude ($p=0.004$). Although the sample of this study which consisted of students from health occupations had moderate to good attitude toward epilepsy; they still have a lack of knowledge in particular areas. Each faculty needs to re-arrange their curriculum to fill this knowledge gap (Meslek and Tutumlari, 2019)

2.8 Table of empirical review

EMPIRICAL REVIEW OF LITERATURE REVIEW

Authors/country	Titles	Objectives	Methods/measurement instruments	Sample size	Statistical tests	Key findings
Shihata et al., 2021/Saudi Arabia	Knowledge, perception and attitudes toward epilepsy among medical students at King Abdulaziz University	To determine knowledge, perception and attitudes toward epilepsy among medical students at King Abdulaziz University	Self-administered questionnaire	455 medical students were recruited for this study	chi-square test of independence	Four hundred thirty-six out of 455 students (98.5%) were aware about epilepsy. Objection to marry an epileptic patient was the most common negative attitude toward epileptics among the participants. Nonetheless, the overall attitude was found to be positive
Al-Eryani et al., 2015/ Yemen	Knowledge of, attitudes toward, and perceptions of epilepsy among university students in	To describe the knowledge and perceptions about epilepsy and the attitudes toward people with epilepsy (PWEs)	Cross-sectional survey using a self-administered questionnaire	1155 students were recruited for this study	Chi-squares	The respondents demonstrated inadequate knowledge and negative attitude towards PWE

	Yemen	among university students in Yemen				
Kabel et al., 2020/ Taif, Saudi Arabia	Knowledge, perceptions, and attitudes of students of health-related science colleges towards epilepsy in Taif, Saudi Arabia	To assess knowledge, perceptions and attitudes of students of health-related science colleges toward epilepsy in Taif	Cross-sectional survey using a self-administered questionnaire	403 students were recruited for this study.	Chi square	The knowledge, perceptions, and attitudes of students of health-related science colleges toward epilepsy in Taif were acceptable regarding to this study. However, the negative attitudes and misconceptions still exist
Ekeh and Ekrikpo, 2015/Nigeria	The Knowledge, Attitude, and Perception towards Epilepsy amongst Medical Students in Uyo, Southern Nigeria	Knowledge, attitude, and perception towards epilepsy amongst medical students comparing the knowledge of the clinical students with that of the basic medical (preclinical) students.	Cross-sectional survey using a self-administered questionnaire	All the medical students who were met in their classroom were studied	Chi square	Most of the participants do not have a good knowledge of epilepsy. The knowledge, however, was much better amongst the clinical students. There is some difference in the attitudes of the clinical students compared with the basic students

CHAPTER THREE

METHODS

3.1 Participants

This study was conducted among undergraduates of the University of Benin, Edo state, Nigeria.

3.1.1 Inclusion criteria

- i. Male and female fulltime undergraduates of the University of Benin, Edo state, Nigeria.
- ii. All the above participants who will be willing to participate.

3.1.2 Exclusion criteria

- i. Undergraduates of the university of Benin who were on leave of absence, suspended and those not willing to participate in the study.

3.2 Materials

3.2.1 Instruments

3.2.1.1 Epilepsy knowledge questionnaire

The Epilepsy knowledge questionnaire is a 34-item questionnaire assessing the knowledge of epilepsy. It assesses the causes, manifestations, diagnosis, treatment and prognosis of epilepsy. Each item has a dichotomous true or false response. Any false or true answer was given to be score of 0 or 1 respectively. The score for the items was summed up to get the total score. Range of scores is from 0 to 34 points. The scores are normalized to 100. The respondents were then categorized into: Poor scorers: 0-45, Fair scorers: 46-70, Good scorers: 71-100. This questionnaire has been standardized on a U.K. population, and was proven to have good internal and test-retest reliability, and be valid to measure differences in knowledge.

3.2.1.2 Attitudes towards persons with epilepsy questionnaire

Attitudes towards persons with epilepsy is a sum of 21- item that provides a measure of the respondent's global attitude toward persons with epilepsy (ATPE-A). The items have Likert scale responses. The potential range of the Likert-type scale includes the following anchors: 1 = I disagree very much, 2= I disagree pretty much, 3 = I disagree a little, 4 = I agree a little, 5 =I agree pretty much,6 = I agree very much. The scores were summated and converted to percentage. Weighted sums of the items responses provide measures of the respondents→attitude with higher scores representing low attitude. The respondents were categorized into: poor scorers: 0-45, fair scorers: 46-70, high scorers: 71-100.

3.3 Methods

3.3.1 Sampling technique

Participants were selected from the university under study via a purposive sampling.

3.3.2 Sample size

The sample size for this study was calculated using the slovin formula: $n = N / ((1 + N [e]^2))$

n= minimum sample size

N= Population size

e = margin of error (0.05)

$$n = 77000 / (1 + 77000 [0.05]^2)$$

$$n = 397.9$$

Sample size =398

Therefore, the minimum sample size for this study was approximately 398 participants

3.3.3 Research design

This study was a cross-sectional survey study design

3.3.4 Procedures for data collection

The informed consent of the participants was sought and obtained after which the purpose and protocol for the study had been explained thoroughly. The questionnaire was then administered to the participants for them to fill. The questionnaire was in 4 sections. Section A was used to obtain the sociodemographic data of the participants, Section B contained the Epilepsy Knowledge Questionnaire which was used to assess the knowledge of the respondents on epilepsy, Section C contain attitude towards persons with epilepsy questionnaire which was used to assess the attitude of the participants towards persons with epilepsy. Once they are done, filling the questionnaire, it was retrieved from them.

3.3.5 Ethical consideration

Ethical approval was obtained from the Research Ethics Committee of the School of Basic Medical Science, University of Benin.

3.3.6 Data analysis

Statistical analysis was done with SPSS (version 27). The descriptive statistics of frequency count, percentages, range, mean and standard deviation was used to summarize the demographic variables and the questionnaire scores. Spearman rank-order correlation was used to assess the relationship between selected participant demographics (age and year of study) and their scores on EKQ and ATPE. Mann-Whitney and was used to test for the differences between the variables. The level of significance was set at 0.05

CHAPTER FOUR

RESULTS

4.1 Sociodemographic characteristics of the respondents

This chapter deals with the representation of data collected from respondents on knowledge, attitude towards epilepsy among students of the university of Benin, Edo State. A total of 378 questionnaires were distributed to the student and 350 were properly filled and valid for data analysis, giving a return rate of 92.6%.

183(52.3%) of the respondents were male while 167(47.7%) were female. 125(35.7%) of the respondents were between the ages of 21-24years old while 120(34.3%) were between the ages of 25-29years. 110(31.4%) of the respondents were 300level students, 109(31.1%) of the respondents were 200level students, 77(22.0%) were 400level students. Majority of the respondents 313(89.4%) were Christians while 37(10.6%) were Muslims. 93(26.6%) of the respondents were Binis, 92(26.3%) were Igbos, 69(19.7%) were Yorubas, 51(14.6%) were Hausas as shown in table 4.1.

Table 4.1: Sociodemographic characteristics of the respondents

Variable	Category	Frequency	Percentages
Gender	Male	183	52.3
	Female	167	47.7
Age	16-20	87	24.9
	21-24	125	35.7
	25-29	120	34.3
	30-34	18	5.1
Level	100	52	14.9
	200	109	31.1
	300	110	31.4
	400	77	22.0
	500	1	0.3
	600	1	0.3
Religion	Christian	313	89.4
	Muslim	37	10.6
Ethnicity	Bini	93	26.6
	Esan	43	12.3
	Hausa	51	14.6
	Igbo	92	26.3
	Yoruba	69	19.7
	Others	2	0.6

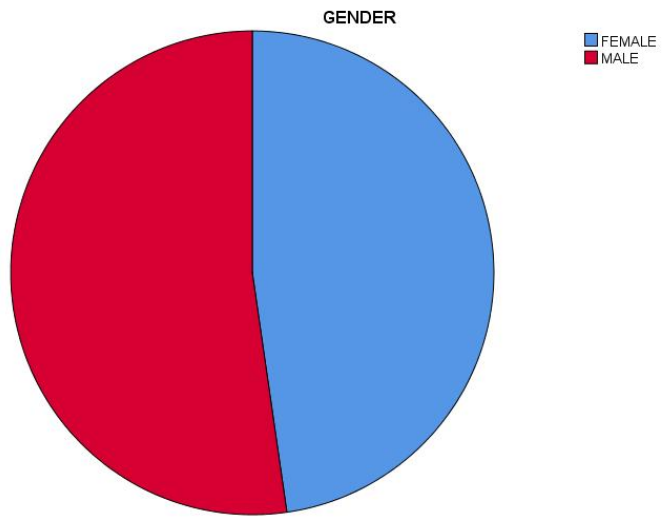


Fig 1 showing the gender distribution of the respondents

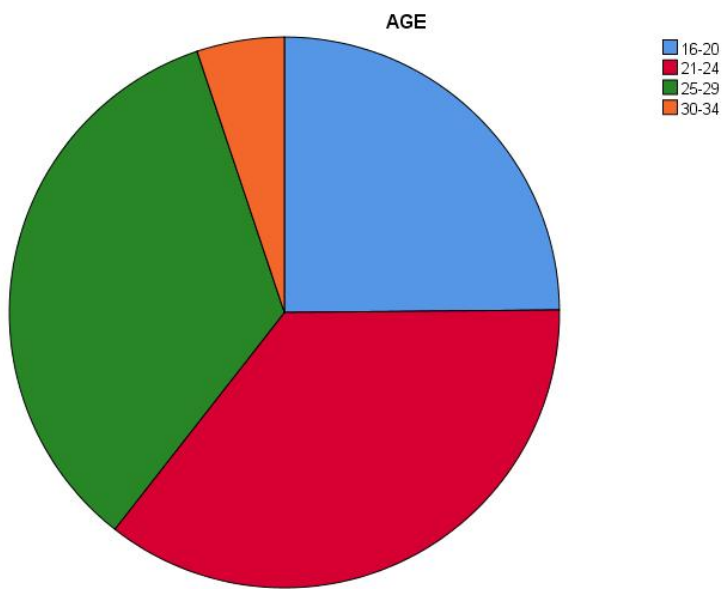


Fig 2 showing the age distribution of the respondents

4.2 Knowledge of epilepsy among the respondents

231(66.0%) of the respondents reported they were aware of epilepsy, 291(83.1%) reported they don't know anyone who has epilepsy. 328(93.7%) of the respondents reported they have seen an episode of epilepsy (on TV or in real life). 37(10.6%) of the respondents reported that Infection is a cause of epilepsy, 217(62.0%) of the respondents reported that epilepsy is a result of brain disease, 223(63.7%) of the respondents reported that epilepsy is a congenital disorder. 274(78.3%) of the respondents reported that epilepsy is a result of nerve malfunction. 202(57.7%) of the respondents reported that epilepsy is also a punishment from God/spirits/Higher beings. 120(34.3%) of the respondents reported that epilepsy is a mental illness. 124(35.4%) of the respondents reported that the average intelligence of people with epilepsy is below normal (below that of the general public). 80(22.9%) of the respondents reported that people with epilepsy poses danger to the general public. 224(64.0%) of the respondents reported that cramping is characteristics of an episode of epilepsy, 52(14.9%) of the respondents reported that

shaking is characteristics of an episode of epilepsy. 259(74.0%) of the respondents reported that loss of consciousness and awareness is characteristics of an episode of epilepsy. 211(60.3%) of

KNOWLEDGE QUESTIONS	CATEGORY	YES	NO
Have you ever heard or read of epilepsy?		231(66.0%)	119(34.0%)
Do you know anyone who has epilepsy?		59(16.9%)	291(83.1%)
Have you ever seen an episode of epilepsy (on TV or in real life)		328(93.7%)	22(6.3%)
What do you think are the causes of	Infection	37(10.6%)	313(89.4%)

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the respondents reported that change of behavior and action is characteristics of an episode of epilepsy. 325(92.9%) of the respondents reported that in event of an epileptic seizure, a hard object should be inserted into the persons mouth to prevent biting of the tongue. 175(50.0%) of the respondents believes that epilepsy can be cured and finally 68.9% of the respondents had good knowledge of epilepsy as shown in table 2.

Table 4.2: Knowledge of epilepsy

epilepsy (check all that apply)

Brain disease	217(62.0%)	133(38.0%)
Inheritance	156(44.6%)	194(55.4%)
Congenital	223(63.7%)	127(36.3%)
Nerve malfunction	274(78.3%)	76(21.7%)
Blood problem	70(20.0%)	280(80.0%)
Cursed	75(21.4%)	275(78.6%)
Too much computer use		350(100.0%)
Punishment from God/Spirits/Higher Being	202(57.7%)	148(42.3%)
Do you believe that epilepsy is a mental illness	120(34.3%)	230(65.7%)
Is the average intelligence of people with epilepsy below normal (below that of the general public)?	124(35.4%)	226(64.6%)
Do people with epilepsy pose a danger to other people?	80(22.9%)	270(77.1%)
What symptoms are characteristics of an episode of epilepsy (check all that apply)?	Cramping 224(64.0%)	126(36.0%)

Shaking	52(14.9%)	298(85.1%)
Loss of consciousness/ awareness	259(74.0%)	91(26.0%)
Change of Behavior/Action	211(60.3%)	139(39.7%)

In the event of an epileptic seizure, should a hard object be inserted into the persons mouth to prevent biting of the tongue?

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If yes, where did you learn this from (check all that apply)?	Books	104(29.7%)	246(70.3%)
	TV	226(64.6%)	124(35.4%)
	Words of mouth	202(57.7%)	148(42.3%)

Do you believe epilepsy can be cured? 175(50.0%) 175(50.0%)

Is drug treatment the only way to manage epilepsy? 144(41.1%) 206(58.9%)

KNOWLEDGE SCORE

15.16± 1.86

GOOD KNOWLEDGE 68.9%

4.3 Attitudes towards patients with epilepsy

177(50.6) of the respondents disagreed that a person with epilepsy can drive, 169(48.3) of the respondents reported that people with epilepsy can live alone, 176(50.3) of the respondents reported that a person with epilepsy has limited sports and leisure activities. 160(45.7) reported that they can marry someone with epilepsy. 175(50.0) of the respondents reported that they can employ a person with epilepsy in an office. 164(46.9) of the respondents reported that they can go with someone with epilepsy to a public place. 180(51.4) of the respondents strongly disagreed

that children with epilepsy must join schools for persons with disabilities. 178(50.9) of the respondents strongly disagreed that children with epilepsy must be separated from other children. 174(49.7) of the respondents agreed that children with epilepsy must be prevented from participating in sport exercises in school. 147(42.0) of the respondents disagreed that people with epilepsy cannot judge on things like the rest of people. 151(43.1) of the respondents disagreed that people with epilepsy must not have children. 146(41.7) if the respondents disagreed that People with epilepsy are less intelligent than other people. 250(71.4%) of the respondents had positive attitude towards epilepsy and patients with epilepsy as shown in table

Table 4.3: Attitudes towards patients with epilepsy

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ITEM	Strongly agree	Agree	Disagree	Strongly disagree	Mean
A person with epilepsy can drive	39(11.1)	45(12.9)	177(50.6)	89(25.4)	2.9
Person with epilepsy can live alone	96(27.4)	169(48.3)	41(11.7)	44(12.6)	2.1
A person with epilepsy has limited sports and leisure activities	94(26.9)	176(50.3)	41(11.7)	39(11.1)	2.9
I refuse to marry someone with epilepsy	43(12.3)	42(12.0)	160(45.7)	105(30.0)	2.9
I refuse to employ a person with epilepsy in an office job for me	42(12.0)	45(12.9)	88(25.1)	175(50.0)	3.1
I refuse to go with someone with epilepsy to a public place	49(14.0)	52(14.9)	164(46.9)	85(24.3)	2.8
Children with epilepsy must join schools for persons	43(12.3)	48(13.7)	79(22.6)	180(51.4)	3.1

with disabilities

Children with epilepsy must
be separated from other
children

41(11.7)	47(13.4)	84(24.0)	178(50.9)	3.1
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Children with epilepsy must
be prevented from
participating in sport
exercises in school

87(24.9)	174(49.7)	46(13.1)	43(12.3)	2.8
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People with epilepsy cannot
judge on things like the rest
of people

39(11.1)	34(9.7)	147(42.0)	130(37.1)	3.0
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People with epilepsy must
not have children.

36(10.3)	39(11.1)	151(43.1)	124(35.4)	3.0
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People with epilepsy are
less intelligent than other
people are

39(11.1)	47(13.4)	146(41.7)	118(33.7)	3.0
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ATTITUDE SCORE

34.28 ± 6.13

Positive attitude 250(71.4%)

Negative attitude

100(28.6%)

|

4.4 Spearman rho correlation between knowledge and attitude towards epilepsy

A spearman rank order was done to examine the correlation between the knowledge and attitude of the respondents towards epilepsy. The findings revealed there was a positive significant correlation between the knowledge and the attitude of the respondents towards epilepsy ($\rho=0.310$, $p<0.001$) as shown in table 4.

Table 4: Spearman rho correlation between knowledge and attitude towards epilepsy

Variable	Rho	P
Knowledge	0.310	<0.001

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4.5 Mann whitney u-test showing the difference in the knowledge and attitude between male and female respondents

A mann whitney u-test was done to examine the difference in the knowledge and attitude towards epilepsy between the male and female respondents. The findings revealed a statistical difference in the knowledge of epilepsy between the male and female respondents ($U=2104.500$, $p<0.001$). There was also a significant difference in the attitude towards epilepsy between the male and female respondents ($U=830.000$, $p<0.001$) as shown in table 4

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Table 5: Mann whitney u-test showing the difference in the knowledge and attitude between male and female respondents

	Gender	Mean rank	Sum of ranks	U	P
Attitude	Male	94.65	17321.50	485.500	<0.001*
	Female	264.09	44103.50		
Knowledge	Male	151.26	27681.00	10845.000	<0.001*
	Female	202.06	33744.00		

4.6 Spearman rho correlation between the knowledge of epilepsy and age, level of the RESPONDENTS

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A spearman rho statistics was done to examine the correlation between the knowledge of epilepsy and the age and level of respondents. The findings revealed there was a positive significant correlation between the knowledge and the age of the respondents ($\rho=0.355$, $p<0.001^*$). There was also a positive significant correlation between the knowledge and the level of the respondents ($\rho=0.896$ $p<0.001^*$) as shown in table 6

Table 6: Spearman correlation between the knowledge of epilepsy and age, level of the respondents

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Variable	rho	P
Knowledge* age	0.355	<0.001
Knowledge * level	0.896	<0.001

4.7 Spearman rho correlation between the attitude towards epilepsy and age, level of the respondents

A spearman rho statistics was done to examine the correlation between the attitude towards epilepsy and the age and level of respondents. The findings revealed there was a positive significant correlation between the attitude towards epilepsy and the age of the respondents ($\rho=0.860$, $p<0.001^*$). There was also a positive significant correlation the attitude towards epilepsy and the level of the respondents ($\rho=0.231$., $p<0.001^*$) as shown in table 7

Table 7: Spearman correlation between the attitude towards epilepsy and age, level of the respondents

Variable	rho	P
Attitude * age	0.860	<0.001
Attitude * level	0.231	<0.001

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4.8 Mann whitney u comparing the knowledge and attitude of epilepsy among the students in healthcare professions and non-healthcare professions

A mann whitney u-test was done to examine the difference in the knowledge and attitude towards epilepsy between students in health professions and those not in the health professions.

The findings revealed a statistical difference in the knowledge of epilepsy between students in health professions and those not in the health professions ($U=10267.000$, $p<0.001^*$). There was also a significant difference in the attitude towards epilepsy between students in health professions and those not in the health professions ($U=10030.000$, $p<0.001^*$) as shown in table

8

Table 8: Mann whitney u comparing the knowledge and attitude of epilepsy among the students in healthcare professions and non-healthcare professions

	DEPT	Mean rank	Sum of ranks	U	P
Attitude	SHCP	208.02	28558.00	10030.000	<0.001*
	SNHCP	148.74	32867.00		
Knowledge	SHCP	206	32630.00	10267.000	<0.001*
	SNHCP	149.97	28795.00		

SHCP= STUDENTS IN HEALTHCARE PROFESSIONS

SNHCP= STUDENTS IN NON-HEALTHCARE PROFESSIONS

4.9 Hypothesis testing

Hypothesis one: There would be no significant difference in the level of knowledge about epilepsy between the male and female undergraduates of the university of Benin

Test: Mann whitney u test

Alpha level: 0.05

observed p value: <0.001*

JUDGEMENT: since the p value is less than 0.05, the null hypothesis is therefore REJECTED

Hypothesis two: There would be no significant difference in the attitude towards epilepsy between the male and female undergraduates of the university of Benin

Test: Mann whitney u test

Alpha level: 0.05

observed p value: <0.001*

JUDGEMENT: since the p value is less than 0.05, the null hypothesis is therefore REJECTED

Hypothesis three: There would be no any significant difference in the level of knowledge about epilepsy between the health professions and those not in the health professions of the university of Benin

Test: Mann whitney u test

Alpha level: 0.05

observed p value: <0.001*

JUDGEMENT: since the p value is less than 0.05, the null hypothesis is therefore REJECTED

Hypothesis four: There would be no any significant difference in the attitude tiwards epilepsy between the health professions and those not in the health professions of the university of Benin

Test: Mann whitney u test

Alpha level: 0.05

observed p value: <0.001*

JUDGEMENT: since the p value is less than 0.05, the null hypothesis is therefore REJECTED

Hypothesis five: There will be no significant relationship between age and the knowledge of epilepsy among the undergraduates of the university of Benin

Test: Spearman rho

Alpha level: 0.05

observed p value: <0.001*

JUDGEMENT: since the p value is less than 0.05, the null hypothesis is therefore REJECTED

Hypothesis six: There will be no significant relationship between level and the knowledge of epilepsy among the undergraduates of the university of Benin

Test: Spearman rho

Alpha level: 0.05

observed p value: <0.001*

JUDGEMENT: since the p value is less than 0.05, the null hypothesis is therefore REJECTED

Hypothesis seven: There will be no significant relationship between age and the attitude of the undergraduates of the university of Benin towards epilepsy

Test: Spearman rho

Alpha level: 0.05

observed p value: <0.001*

JUDGEMENT: since the p value is less than 0.05, the null hypothesis is therefore REJECTED

Hypothesis eight: There will be no significant relationship between level and the attitude of the undergraduates of the university of Benin towards epilepsy

Test: Spearman rho

Alpha level: 0.05

observed p value: <0.001*

JUDGEMENT: since the p value is less than 0.05, the null hypothesis is therefore REJECTED

Hypothesis nine: There would be no significant relationship in the knowledge, attitude towards epilepsy undergraduates of the university of Benin

Test: Spearman rho

Alpha level: 0.05

observed p value: <0.001*

JUDGEMENT: since the p value is less than 0.05, the null hypothesis is therefore REJECTED

CHAPTER FIVE

DISCUSSION OF FINDINGS, CONCLUSION AND RECOMMENDATION

5.1 DISCUSSION OF FINDINGS

The aim of this study was to investigate the knowledge and attitude of undergraduates of the University of Benin towards epilepsy. Compared to other chronic illnesses, epilepsy is still a highly unusual medical condition and a stigmatized sickness. There is evidence that improving medical students' understanding of epilepsy and their attitudes toward it, as well as those of students in other health professions, could significantly enhance patients' quality of life (Fonseca *et al.*, 2014). Additionally, medical students have the potential to be a significant resource for educating the general public (Ekrikpo and Ekeh, 2015). However, this study was aimed at looking beyond the medical students and assessing the entire undergraduates of the University of Benin. From this current study, it was revealed that 183(52.3%) of the respondents were male while 167(47.7%) were female and this was in agreement with the finding from a study done by Nwankwo *et al.* (2019) on the Knowledge and attitude of health science students towards epilepsy in a Nigerian University which reported that more than half of the respondents were males. The first major finding from this current study revealed that 68.9% of the respondents had good knowledge of epilepsy. This finding was not in agreement with the finding from a study done by Nwankwo *et al.* (2019) which revealed that participants' knowledge about epilepsy was generally fair with 64.3% having fair knowledge despite the fact that the participants of the

present study were prospective health care professionals. The findings of a study done by Ekrikpo and Ekeh, (2015) revealed that most of the participants do not have a good knowledge of epilepsy, and this finding contradicts the finding from this current study. From this study, it was reported that 231(66.0%) of the respondents reported they have heard or read of epilepsy, however 291(83.1%) reported they don't know anyone who has epilepsy. This was slightly similar to the finding from a study by Shihata *et al.* (2021) that reported that about 95.4% of the students of KAU, Faculty of Medicine are aware of the meaning of epilepsy, either by reading or hearing about it or simply by knowing someone with epilepsy. The respondents of this study demonstrated adequate knowledge of the cause of epilepsy with 217(62.0%) of the respondents reported that epilepsy is a result of brain disease, 223(63.7%) of the respondents reported that epilepsy is a congenital disorder. 274(78.3%) of the respondents reported that epilepsy is a result of nerve malfunction. 202(57.7%) of the respondents still held on to some of the old believes that epilepsy is also a punishment from God/spirits/Higher beings. Kabel *et al.* (2020) reported from a similar study that the majority of the participants (84.1%) attributed epilepsy to neurological disease while 40.7% of them stated that epilepsy results from brain disease. Around 31.3% of the students think that epilepsy is due to emotional stress. When the respondents of this current study were asked about the manifestation of epilepsy, 224(64.0%) of the respondents reported that cramping is characteristics of an episode of epilepsy, 259(74.0%) of the respondents reported that loss of consciousness and awareness is characteristics of an episode of epilepsy. 211(60.3%) of the respondents reported that change of behavior and action is characteristics of an episode of epilepsy. This was in similar to the findings from the study by Kabel *et al.* (2020) that reported that (97%) stated that epilepsy is usually manifested by convulsions while 60% reported that

brief loss of consciousness is the characteristic feature of epilepsy. The respondents of this current study demonstrated some old belief by reporting that in event of an epileptic seizure, a hard object should be inserted into the person's mouth to prevent biting of the tongue.

Another finding from this current study showed that 250(71.4%) of the respondents demonstrated positive attitude towards patients with epilepsy. This finding was similar to the finding from a study conducted by Nwankwo *et al.* (2019) which revealed that 70.3% of the study's participants had positive attitude. A similar study by Shihata *et al.* (2021) reported that the overall attitude was found to be positive. It was reported that 92.1% of students replied that epileptics could have children. This was also in tandem with the finding from this current study with reports that 151(43.1) of the respondents disagreed and 124(35.4) strongly disagreed that people with epilepsy must not have children. Nwankwo *et al.* (2019) reported that majority of the students in this study agreed that students with epilepsy should be in normal classrooms and that PLE should be allowed to have children. This is similar to some of the finding from this current study that 178(50.9) of the respondents strongly disagreed and 84(24.0) agreed that children with epilepsy must be separated from other children.

The finding from this study revealed a there was a statistical significant relationship between the knowledge and the attitude of the respondents towards epilepsy ($p < 0.001^*$). It simply meant that the attitude of the respondents was driven by their knowledge. This was not in tandem with the finding from a study by Nwankwo *et al.* (2019) which reported no significant relationship between the participants' knowledge about epilepsy and their attitude towards people living with epilepsy ($p > 0.05$). This may be implying that attitude is not always driven by knowledge. The findings revealed a statistical difference in the knowledge of epilepsy between the male and

female respondents ($U=2104.500$, $p<0.001^*$). There was also a significant difference in the attitude towards epilepsy between the male and female respondents ($U=830.000$, $p<0.001^*$). This was also not in support of the findings from the study by Nwankwo *et al.* (2019) which reported no significant difference in the knowledge and attitude towards epilepsy between the male and female respondents ($p>0.05$). Furthermore, a finding from this current study also revealed there was a statistical significant relationship between the knowledge and the age of the respondents ($X^2=200.325$, $p<0.001^*$). There was also a statistical significant relationship between the knowledge and the level of the respondents ($X^2=238.705$, $p<0.001^*$). there was a statistical significant relationship between the attitude towards epilepsy and the age of the respondents ($X^2=210.142$, $p<0.001^*$). There was also a statistical significant relationship the attitude towards epilepsy and the level of the respondents ($X^2=242.712.$, $p<0.001^*$). Finally, there was a statistical significant difference in the knowledge of epilepsy between students in health professions and those not in the health professions ($U=10267.000$, $p<0.001^*$). There was also a significant difference in the attitude towards epilepsy between students in health professions and those not in the health professions ($U=10030.000$, $p<0.001^*$)

5.2 CONCLUSION

The knowledge and attitude of undergraduates of the university of Benin was good and positive respectively. It was reported that the knowledge of the respondents may have influence their attitudes towards patients with epilepsy.

5.3 RECOMMENDATIONS

The finding may have reported good knowledge and positive attitudes among the respondents, however, there is still an obvious need for an improvement in knowledge and attitude among the

respondents. Hence an awareness of the causes and manifestations should be done among these respondents. Hence there may be a need for addition of epilepsy as a topic in the student's course outline; this will improve their knowledge about epilepsy.

5.4 SUGGESTIONS FOR FURTHER STUDY

The present study was not without limitations. As against a multicenter study, the present study was a single-center study, and as such may not give a complete picture of the study area. There is need for future studies to recruit students from different schools in order to have a clearer understanding of the knowledge and attitude of health science students towards epilepsy. Further studies are needed to determine methods of overcoming these negative attitudes and misconception.

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APPENDICES

SOCIODEMOGRAPHICS

AGE

GENDER

OCCUPATION

LEVEL OF EDUCATION

COURSE

EMPLOYMENT STATUS

KNOWLEDGE QUESTIONS	CATEGORY	YES	NO
Have you ever heard or read of epilepsy?			
Do you know anyone who has epilepsy?			
Have you ever seen an episode of epilepsy (on TV or in real life)			
What do you think are the causes of epilepsy (check all that apply)	Infection		
	Brain disease		
	Inheritance		
	Congenital		
	Nerve malfunction		
	Blood problem		
	Cursed		
	Too much computer use		

EPILEPSY KNOWLEDGE QUESTIONNAIRE

	Punishment from God/Spirits/Higher Being		
	Don't know		
	Others		
Do you believe that epilepsy is a mental illness			
Is the average intelligence of people with epilepsy below normal (below that of the general public)?			
Do people with epilepsy pose a danger to other people?			
Should children with epilepsy be enrolled in special education?			
What symptoms are characteristics of an episode of epilepsy (check all that apply)?	Cramping		
	Shaking		
	Loss of consciousness/ awareness		
	Change of Behavior/Action		
	Loss of Memory		
	Don't know		

In the event of an epileptic seizure, should a hard object be inserted into the person's mouth to prevent biting of the tongue?			
If yes, where did you learn this from (check all that apply)?	Books		
	TV		
	Words of mouth		
	Others		
Do you believe epilepsy can be cured?			
Is drug treatment the only way to manage epilepsy?			

ATTITUDE TOWARDS PEOPLE WITH EPILEPSY

ATTITUDE QUESTIONS	CATEGORY	YES	NO
Should people with epilepsy get married?			
Should people with epilepsy have their own			

children?			
Would you object to your child playing or going to school with a child with epilepsy?			
Would you object to your child getting married to a person with epilepsy?			
Do you believe that people with epilepsy should work and function like people who do not have epilepsy?			
If one of your family members had epilepsy, would you want to conceal this information from others?			
If yes, why?	-Feel ashamed for family		
	Afraid of being discriminated against		
	Other		
Would you help someone with an epileptic seizure?			

If not, why not?	-Fear		
	-Do not know how to help		
	Do not want to help		
	Other		
If you were an employer, would you knowingly hire someone with epilepsy?			
If you were an employer, would you terminate the employment of persons with epilepsy, if a seizure occurred during work because of unreported epilepsy?			



RESEARCH ETHICS COMMITTEE

COLLEGE OF MEDICAL SCIENCES
UNIVERSITY OF BENIN, BENIN CITY, NIGERIA.



Chairman: Prof. F. A Imarhiagbe
MBChB Cert Neuroscience, FMCP
MD, Cert Clin Res and ethics.
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P.M.B 1154, BENIN CITY

Our Ref: CMS/REC/01/VOL.2/512

Date: 4th April, 2024

Re: KNOWLEDGE, ATTITUDE AND PERCEPTION OF UNDERGRADUATE OF UNIVERSITY OF BENIN, EDO STATE, NIGERIA TOWARDS EPILEPSY

Name of Principal Investigator: ADEGOROYE PRECIOUS OLUWASEYI
Department Of Physiotherapy
School Of Basic Medical Sciences,
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University Of Benin
Benin City

REC Approval No: CMS/REC/2024/512

This is to inform you that the research described in the submitted proposal, the Informed Consent Forms and other participant information materials have been reviewed and approved by the College Research Ethics Committee, University of Benin.

This approval dates from 4th April, 2024 to 3rd April, 2025. In multi-year research, Endeavour to submit your annual report to the REC early in order to obtain renewal of your approval and avoid disruption of your research.

The National Code of Health Research Ethics requires you to comply with all institutional guidelines, rules and regulations and with the tenets of the code including ensuring that all adverse events are reported promptly to the REC. No, changes are permitted in the research without prior approval by REC except in circumstances outlined in the code. REC reserves the right to conduct compliance visit to your research site without prior notice.

Thank you.

PROF. F.A IMARHIAGBE
Chairman, REC

