

Investigating Depression and its Association with Suicidal Ideation among Epileptic Patients Visiting the Psychiatric Outpatient Clinic at the University Teaching Hospital in Lusaka, Zambia

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Abstract

Background: Epilepsy, a chronic neurological disorder distinguished by repeated unprovoked convulsions associated with undesirable consequences of both physical and social, as well as the psychosocial aspects of the patient. It affects an individual's standard of living. Depression, a mood disorder is one of the most common psychiatric co morbidities in patients with epilepsy (PWE) with major depressive episodes among the most commonly diagnosed. Studies have shown that only a small number of patients receive treatment for their depression. Depression as a co morbidity in epilepsy continues to be under recognized and under treated especially in the developing countries. This study aimed to investigate depression and its association with suicidal ideation among epileptic patients attending the psychiatric outpatient clinic at the University Teaching Hospital, Lusaka, Zambia.

Methods: This was a cross sectional quantitative study targeting the epileptic patients visiting the clinic for reviews. Participants were assessed based on their availability as they visit the clinic. Questionnaires were used for data collection and data analysis was done using SPSS Version 26 and expressed in frequencies, percentages, histograms and pie charts. Chi-square test was used to compute association between categorical variables and p values < 0.05 were considered statistically significant.

Results: The study had a total of 12 epileptic patients who were being managed at UTH Department of Psychiatry. The median age of the participants was 35 years IQR (28, 35). Of the total participants 7 (58%) were male and 5 (42%) were female. The majority of the participants were unemployed, 3 (25%) were employed and 2 (16.7%) were students. 9 (75%) lived alone and had no consistent family support. The mean duration with which the patients had been diagnosed with epilepsy (in years) was 16 years, median 6 IQR (3, 6). Major depressive disorder was diagnosed in 10 (83%) of the total participants. Suicide risk classification was low in 11 (92%) cases. There was no statistically significant association between major depression and suicidal ideation in patients living with epilepsy ($p > 0.05$).

Conclusion: People with epilepsy displayed no suicidal attempt however, major depression and lack of family and social support was prevalent among epileptic patients in this study.

Keywords: Depression; Suicidal Ideation; Epileptic Patients

Operational Definitions of Key Terms

- Psychiatry: A branch of medicine focused on the diagnosis, treatment and prevention of mental, emotional and behavioral disorders.
- Neurological Disorder: Diseases of the central and peripheral nervous system. In other words, the brain, spinal cord, cranial nerves, peripheral nerves, nerve roots, autonomic nervous system, neuromuscular junction, and muscles.

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- Co- Morbidity: A state of having multiple medical conditions at the same time, especially when they interact with each other in some way.
- Diagnostic and Statistical manual of mental disorders fifth edition (DSM-5): Is a psychiatric classification developed by the American Psychiatric Association in collaboration with other groups of mental health professionals.

Abbreviations

WHO: World Health Organization; DSM-5: Diagnostic and Statistical Manual of Mental Disorders Fifth Edition; PWE: Patients with Epilepsy; UTH: University Teaching Hospital

Introduction

Epilepsy is a chronic neurological disorder denoted by repeated unprovoked convulsions [1]. It is a brain disorder characterized by an enduring predisposition to generate epileptic seizures and by the neurobiological, cognitive, psychosocial and social consequences of the condition [2].

Many forms of epilepsy exist with varying seizure severity however; they all constitute the most common positive signs and symptoms of brain disturbance [3]. It is known to be associated with unpleasant bodily, social, and psychosocial outcomes. The prevalence of convulsions even at low rates is said to be associated with psychosocial handicap, which may remain furtive in general practice. Epilepsy has an impact on an individual's standard of living as the presence of repeated convulsions may cause hardships in important areas of an individual's life and hinder formation of new relationships [4].

Worldwide, it is estimated that approximately more than 30% of the epileptic population are known to be experiencing psychiatric derangement which is thought to be an underestimation because of low screening for psychiatric conditions especially in epileptic population [2]. This could be a result of how epilepsy is viewed especially in the African communities, Zambia included. There are a lot of myths and traditional beliefs which are associated with epilepsy with beliefs that epilepsy is associated with demonic possession or witch craft [5]. According to [5], due to these beliefs individuals opt to seek help from witch doctors and prayers from pastors before they would finally see a health practitioner.

Depression, is one of the most common diseases among the psychiatric co morbidities in epileptic patients, with major depressive episodes being the most commonly diagnosed [6] and studies have shown that only a small number of patients (approximately 1%) receive treatment for their depression. According to the Diagnostic and Statistical Manual of mental disorders fifth edition, victims with an incident of major depression must have at least 5 of 9 symptoms of depression (and one of them must be depressed mood or loss of interest or pleasure) [7].

These distinguishing features must be there for at least 2 weeks to rule out transient mood fluctuations and the features must cause discomfort or disability. One should rule out conditions like bipolar disorder, mood abnormalities because of substance abuse (e.g. amphetamines) or due to a generalized medical condition such as thyroid diseases [8].

Multiple factors, both genetic and psychosocial determine the risk of development of major depression in patients with epilepsy. According to [2], in our setting poverty and stigma are among the main social risk factors. Stigma within society, feelings of anger and annoyance coupled with low self-esteem as a result of the risk and unforeseeable nature of the convulsions and the psychotropic effects brought on by anti-consultants have all been placed as reasons for the strong alliance between depression and epilepsy [6].

Problem statement

Regardless of their comparatively high occurrences, psychiatric conditions often remain unacknowledged and untreated and even when detected in detection centers, the treatment of psychiatric co morbidities remain low as it has been observed that in caring for PWE, medical personnel tend to address the PWE and family's views on the aftermath and weight of epilepsy marginally, with their goal exclusively on controlling the convulsions leaving the psychiatric and intellectual disturbances often ignored except when severe enough to cause major disability or disturbances [3].

These co morbidities hinder the standard of living and contribute significantly to untimely mortality (i.e. suicide) if not managed appropriately as the impact of an untreated co morbid psychiatric disorder can be greater on the quality of life of PWE than that of the convulsion itself [4]. In our setting, epileptic patients face a lot of stigma as a result of traditional and religious beliefs which associate witch craft and demonic possessions with the illness. This hinders an individual's social life especially as people tend to run from PWE and shun them away because they believe the condition is contagious. Patients are also excluded from social activities as they are seen to be a distraction to the general population hence leaving PWE hopeless and lonely in most cases as mentioned by [5], which prompts and arouses us as medical professionals to question and investigate the association of major depression in the epileptic population.

Studies show that therapeutics and detection levels of psychiatric co morbidity in epileptic population in Lusaka district stands below 5% (at approximately 3.5%) thus only less than ten percent of those eligible actually get treated and it's saddening that this low detection and management is regardless of the knowledge that psychiatric disorders are most common in epileptics [2].

The fact that there are a vast number of people with depressive symptoms not being treated is a significant matter and needs immediate attention if there is to be an improvement in the survival rate in epilepsy as psychiatric conditions such as depression play an important role in determining the outcome.

Study rationale and justification

Whilst rotating in Psychiatry at the University Teaching hospital in Lusaka, a client in her early twenties walked in and explained the stigma she faces every single day from fellow peers as she has been suffering from epilepsy for some time. The client went on to explain her fears of having an attack while in a public place especially at school or when boarding public transportation. She explained on how she is constantly anxious and how frustrating it was to constantly be thinking about and wondering when your next attack would be. She mentioned because of the condition she has had to repeat certain grades over and over.

Watching the client shed tears as she spoke, made me realize that truly there's a definite association between major depression and epilepsy especially in the young and middle aged adults who have everything to lose especially when it comes to the social dynamics of life like, education and careers which are put on hold as a result of constant seizure activities and the limitation to do certain jobs as a result of being epileptic.

Studies conducted show that regardless of the high rates of epilepsy in sub-Saharan Africa and the confirmed relationship between the two conditions, the magnitude of co morbid epilepsy and depression is still understood poorly [6].

Thus, according to [6], scrutinizing the psychiatric co morbidities of epilepsy in Zambia, and Africa as a whole, is of great importance due to the high rate of epilepsy in the region and due to the fact that studies have shown that having a depression related co morbidity is linked with poorer quality of life and raised suicidal ideation for the PWE as well as significantly reduced numbers of overall convulsion recovery, raised seizure severity and greater emotional, cognitive and physical illness.

Depression in epileptic patients is known to burden the health systems, particularly in low income countries such as Zambia, because epileptic patients with untreated depression use more health resources significantly. In addition, studies show that depressed epileptic patients might be less likely to follow and stick to epilepsy treatment and may respond poorly to drug treatment than their non-depressed counterparts [6].

Finer information on the degree of depression as a co morbidity in epileptic patients is significant for minimizing inappropriate treatment of the epileptic population and for enhancing suicide prevention efforts in this very vulnerable community.

Research Questions

- How common is depression in the epileptic patients visiting the psychiatric outpatient clinic?
- What percentage of the epileptic population visiting the outpatient clinic experience suicidal thoughts?
- What is the relationship between depression and suicidal ideation among the epileptic patients attending the outpatient clinic?

Research Objectives

General objective

Despite its high prevalence, depression as co morbidity in epilepsy continues to be under recognized and under treated due to the poorly understood extent of co morbid epilepsy and depression. This study aims to investigate depression and its association with suicidal ideation among epileptic patients attending the psychiatric outpatient clinic at the University teaching hospital, Lusaka, Zambia.

Specific objectives:

1. Determine the prevalence of depression among epileptic patients visiting the University Teaching Hospital psychiatric clinic
2. Assess suicidal ideation in the epileptic patients visiting the clinic
3. Establish an association between depression and suicidal ideation among the epileptic patients visiting the clinic.

Literature Review

According to the World Health Organization [9], Epilepsy affects around 50 million people worldwide, making it the most common neurological disease globally with the risk of premature death in people with epilepsy up to three times higher than that of the general population. Untreated epilepsy is known to bring about damaging head injuries and diminish social and physical engagements, which in turn aggregate in significant psychological stress leaving epileptics more vulnerable to psychiatric illnesses.

Depression is a clinically important accompanying factor of epilepsy and a connection between the two conditions was described by Hippocrates: “Melancholics ordinarily become epileptics and epileptics’ melancholics” [10]. Depression is said to be often seen in the epileptic than in the general population.

Global perspective

A study conducted at the Phramongkutklo Hospital in Bangkok, Thailand by [11], states that depression is a powerful predictor of self-perceived health status, independent of the rate of convulsion, and is as linked with raised costs of epilepsy. The study further concluded that the prevalence of depression among the epileptics involved in the study was approximately 38.2%. Grabowska-Grzyb A., *et al.*

[12] studied the risk factors for depression in partial epilepsy in 100 out of 203 patients with epilepsy that suffered concurrent depression and found that 76% of them had severe depression.

The lifetime prevalence of suicidal ideation was almost twice as high in patients with epilepsy in a Canadian community health survey [13]. In addition a population -based study identified that the risk of committing suicide was 3 times higher among patients with epilepsy than in control groups and was greatest in patients with co morbid psychiatric disorders; specifically, those with depression had a thirty two -fold higher risk of attempting suicide. Suicidal ideation was reported to be more prevalent among patients with epilepsy. Lim Hye-Won., *et al.* [14] suggested that the major determinants of suicidal attempts in patients with epilepsy in hospital based studies in Korea were found to be other psychiatric symptoms including depression rather than convulsion-related variables.

According to Baker GA., *et al.* [15], nearly half of patients with epilepsy in a European study sample reported encountering stigma, and high scores on the stigma scale were connected with factors reducing the patient's quality of life such as having negative thoughts about life and worrying; thus, the deemed social disgrace was frequently linked with depression in relation to current rates of convulsions and both psychological and social factors in a United Kingdom based community study.

African perspective

A study conducted in the Sub-Saharan Africa by Dessie Mulugeta H., *et al.* [6] stated that regardless of relatively congruous proof of high prevalence of co-morbidity globally, most studies to date have included only one or two studies from the continent or no African studies at all, with the African literature on the subject being distinguished by considerable variability, inconclusive findings and inconsistency. Regardless of the high prevalence of epilepsy in sub-Saharan Africa and the confirmed relationship between epilepsy, and depression the scale of co morbid epilepsy and depression in the region is still understood poorly. Rates of psychiatric illnesses are 9% higher among patients with epilepsy with rates of depression being 22% higher [6].

There's also proof that the connection between epilepsy and depression may be interactive with depressed people having a greater risk for developing epilepsy perhaps as a result of higher rates of substance abuse and head injuries. Pronounced severity of co morbid depression with epilepsy is linked to a significantly lowered overall seizure recovery, increased cognitive, physical and emotional illness and higher seizure severity [6].

In a study conducted in Ethiopia, depression rate was 49.3% [16] and 6.5% of depression cases were reported in a study conducted in Rwanda [17]. Analysis of the sub-group by topographical region established that the pooled rate of depression among epileptic patients in East Africa was 34.52 with a 95% confidence interval: 23.53 - 45.51 and 29.69 with a 95% confidence interval: 22.7 - 36.68 among patients in Southern and West Africa [6].

High rate of depression in the epileptic population in Sub-Saharan African settings may be particularly severe where the illness is more poorly treated, there's limited treatment options, high epilepsy-related stigma as well as raised economic and social costs of illness particularly acute. This argument that the previously mentioned factors are important drivers of the higher rates of co-morbidity in Sub-Saharan Africa is supported by the results in the independent studies that reviewed that these factors are outstandingly connected with depression among epileptic patients [6]. This same meta-analysis revealed that prevalence of co-morbid depression with epilepsy is higher and of greater magnitude in Sub-Saharan Africa than that reported in other regions.

With regards to the demographic profile of epileptic patients that presented with co morbid major depressive symptoms, a different study conducted in Ethiopia, showed that the presence of depression among PWE is strongly associated with substandard compliance to treatment, poor standard of living and high perceived stress.

It also showed an association with lower levels of education, unemployment, increased burden and cost of health care services with depression being noted in approximately thirty six percent of the male patients and sixty percent of the female gender, with patients who can't read and write having four times odds of depression as compared to those of educational status of college and above [18].

National perspective

According to results from a study conducted in the Sub-Saharan Africa for 2005-2017, Zambia's prevalence of depression which was measured using the brief psychiatric Rating scale was 39.4% out of a total sample size of 397 patients [6].

A study conducted in Lusaka, showed an estimation of 49% of people with epilepsy had a co-morbid anxiety or depressive disorder [2]. The same study also indicated that approximately only one percent of the population under study was being managed for depression, regardless of the screening tools revealing depressive symptoms present in twenty-eight to thirty nine percent of the study population. This only meant that a greater population of depressed patients with epilepsy do not get any treatment at all, making this a serious issue that needs immediate attention if we as a community are to ameliorate the epilepsy survival rate.

The detection and management of levels of psychiatric co-morbidity in epilepsy in Lusaka District stands at 3.5% of the epilepsy population [3], which indicates that only less than 10% of those eligible get treated.

The focus of therapeutics of patients with epilepsy by clinicians was found to have been almost exclusively on controlling the convulsions with minimal or no attention paid to the psychosocial effects of the condition on patients, leaving these individuals to deal with the sequel of the disease on their own [3].

With the studies conducted so far, results have shown that very minimal has been done with regard to the psychosocial impact of epilepsy on patients with epilepsy receiving treatment in Zambia [3].

Methodology

Study scope

This study focused on PWE attending the psychiatric outpatient clinic at the University teaching hospital in Lusaka, aged 18 to 45 years and it included both male and female patients from both low and high income areas. Patient's diagnosis with epilepsy was made by a qualified health professional and did not have any co existing mood abnormalities as a result of effects of a substance (e.g. amphetamines) or due to a general medical condition such as thyroid disease.

Study site

The study was conducted from the psychiatric outpatient clinic (Clinic 6) at the University teaching hospital in Lusaka Zambia. The University Teaching Hospital is the largest public tertiary hospital in Lusaka with approximately 1600 beds, and it is used to train local medical students, nurses and other health professionals. The hospital offers both inpatient and outpatient care and is a Centre for specialist referrals from across the country. Lusaka, the capital city of Zambia is currently home to an approximate total population of 2,774,000 which is a 4.87% increase from 2019 [19].

Study design

This study was a cross sectional quantitative research study. It involved one-on-one sessions with the study participants and the gathered information was analyzed in an interpretative, subjective and diagnostic manner. The primary data collected from the patients was used in the analysis of findings.

Study population

The study included patients attending the psychiatric outpatient clinic at the University Teaching Hospital in Lusaka that had a clinical diagnosis of epilepsy. Consideration was given for patients in age groups from 18 years and both female and male participants were considered.

Eligibility criteria

Inclusion criteria:

- A qualified health practitioner should make the diagnosis of epilepsy in the participating patients.
- People responsible for the care of patients who cannot recall the details of their disease and should have stayed with the patient for at least one year.
- Patients attending the Psychiatric outpatient clinic at the University Teaching Hospital in Lusaka.

Exclusion criteria:

- Any informant who has not lived with the epileptic patient participating in the study for at least one year

Sample size estimation

The sample size was determined according to the population of epileptic patients attending the psychiatric outpatient clinic at the University Teaching Hospital, in Lusaka every month using the Slovin's formula:

$$n = \frac{N}{1 + Ne^2}$$

Where:

N = Total population of epileptics attending the psychiatric outpatient clinic which is 12

e = Error expected with 95% Confidence interval which is 0.05

n = Sample size

$$n = \frac{12}{1 + 12(0.05)^2}$$

$$n = 11.$$

Selection of participants and sampling methods

Probability and convenient sampling methods were used; thus, participants were assessed based on their availability as they visited the clinic for reviews. The sampling method used identified typical cases, i.e., it entailed selecting representative cases from the people who attend the epilepsy clinics at the University Teaching Hospital.

Variables of interest

- Self-consciousness,
- Self-esteem,
- Reduction in activities due to illness,
- Anxiety,
- Seizure frequency, type and locus of control.

Data collection plans and tools

A demographic semi-structured questionnaire was used to collect data from the participants. The survey was issued through scheduled interviews to all participants. The questionnaires were administered to either the patient with epilepsy or the care giver depending on patient's level of education and/or severity of illness. Participants were screened for co morbid depression using the Neurological Disorders Depression Inventory for Epilepsy (NDDI-E), which is a brief, six-item questionnaire that allows for rapid identification of major depression in epilepsy. The same participants were also assessed for suicide risk using the Suicide Risk Assessment Form which is adapted from Beck's Suicidal intent Scale.

Data management and storage

Data collected was compiled and presented in appropriate graphs. Hard copies were made from the original answered questionnaires and filed and a soft copy was also developed and stored on an external drive that was encrypted and access limited to only those that required it and had been identified and approved by the Mulungushi University School of Medicine and Health Sciences Research Ethics Committee.

Data analysis

A brief description of the sample population was given and the data was then ordered and coded, categorized to facilitate analysis. The data was then summarized through charts, figures, diagrams and flowcharts. Quantitative data was analyzed with the Statistical package for the social sciences (SPSS) software. Chi square test was used to compute association between categorical variables and $p < 0.05$ were considered statistically significant.

Ethical considerations

The study was conducted in accordance with the three basic ethical principles, namely respect for persons, beneficence and justice. The participants did not disclose their names on questionnaires, instead unique numbering was used on the questionnaires to identify the participants. Ethical clearance of the study was sought from the Mulungushi University School of Medicine and Health Sciences Research Ethics Committee and permission was sought from Cavendish University Zambia School of Medicine, University Teaching Hospital Administration and the Department of Psychiatry at the University Teaching Hospital. Participants were informed and assured regarding the maintenance of anonymity and confidentiality and were informed of their freedom to withdraw from participating in the study at any given time.

Results

Socio-demographic characteristics

The study comprised of 12 epileptic patients who were being managed at UTH Department of Psychiatry. The median age of the participants was 35 years IQR (28-35). Of the total participants 7 (58%) were male and 5 (42%) were female. Patients of single marital status were 7 (58%), married 2 (16.7%) and divorced 3 (25%). Of the total participants 11 (92%) were of Christian religion and 1 (8%) of Muslim religion. Educational background revealed that 2 (17%) had primary education, 4 (33%) had secondary education and 6 (50%) had tertiary education.

The majority of the participants were unemployed, 3 (25%) were employed and 2 (16.7%) were students. 9 (75%) lived alone and had no consistent family support (Figure 1).

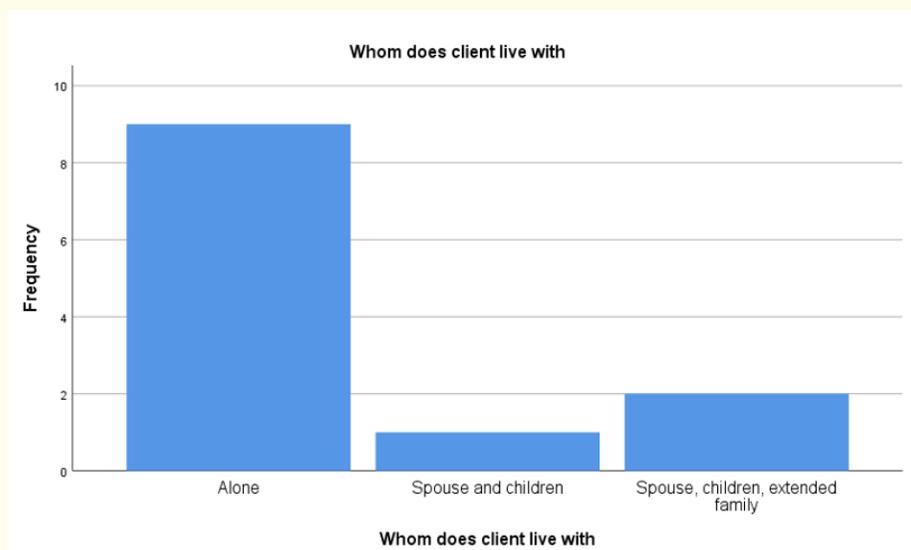


Figure 1: Bar graph showing who the patients lived with.

Clinical characteristics of the study participants

The mean duration with which the patients had been diagnosed with epilepsy (in years) was 16 years, median 6 IQR (3, 6). Major depressive disorder was diagnosed in 10 (83%) of the total participants. Suicide risk classification was low in 11 (92%) cases and the majority 10 (83%) were discharged home and 2 (17%) were referred for further management.

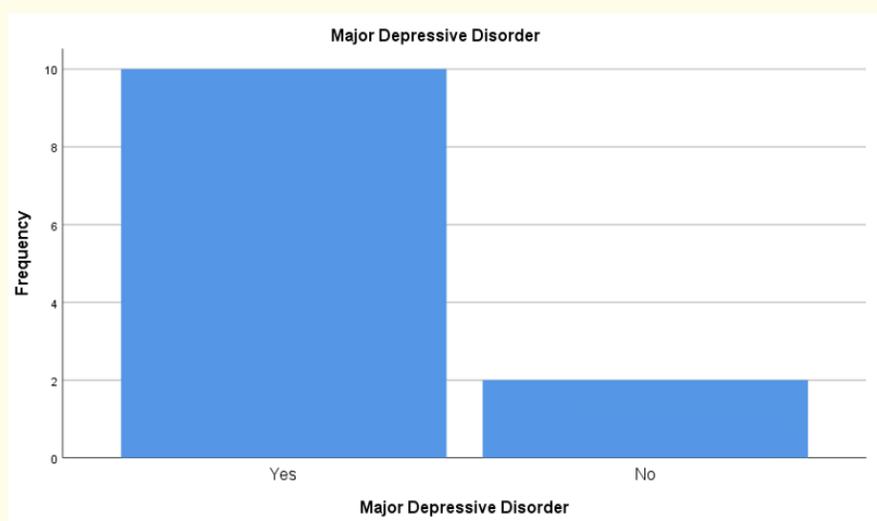


Figure 2: Bar graph showing the proportions of patients diagnosed with major depressive disorder.

The proportion of patients with clinically diagnosed major depression is represented by the figure 2 above.

The chi square test was used to compute factors associated with major depression in patients with epilepsy. Confidence intervals for odds ratios are presented only for strictly dichotomous variables (2x2 tables). The data output is presented in the table 1 below.

Characteristic	Major Depressive Disorder		95% Confidence Intervals (Odds)		P-value
	Yes	No	Upper	Lower	
Sex			0.071	31.6	0.793
Female	4 (80%)	1 (20%)			
Male	6 (86%)	1 (14%)			
Marital status			*	*	0.598
Divorced	2 (67%)	1 (33%)			
Married	2 (100%)	0 (0%)			
Single	6 (86%)	1 (14%)			
Religion			0.619	1.081	0.640
Muslim	1 (100%)	0 (0%)			
Christian	9 (82%)	2 (18%)			
Education			*	*	0.741
Tertiary	5 (83%)	1 (17%)			
Secondary	3 (75%)	1 (25%)			
Primary	2 (100%)	0 (0%)			
Occupation			*	*	0.328
Student	1 (50%)	1 (50%)			
Unemployed	6 (86%)	1 (14%)			
Employed	3 (100%)	0 (0%)			
Who does client live with?			*	*	0.670
Spouse, children, extended family	2 (100%)	0 (0%)			
Spouse and children	1 (100%)	0 (0%)			
Alone	7 (78%)	2 (22%)			
Suicide risk			0.619	1.081	0.640
Medium	1 (100%)	0 (0%)			
Low	9 (82%)	2 (18%)			

Table 1: Factors associated with major depression in epileptic patients.

*Confidence intervals for odds ratios could only be computed for a 2*2 tables.

P < 0.05 considered statistically significant. Row percentages used.

There was no statistically significant association between major depression and all the variables tested for association. There was no association between major depression and suicide risk in epileptic patients, $p > 0.05$ and 95% CI (0.62, 1.1).

Discussion

This study was conducted to investigate depression and its association with suicidal ideation among epileptic patients attending the psychiatric outpatient clinic at the University teaching hospital, Lusaka, Zambia. The prevalence of clinically confirmed major depression was 83%. This finding was higher than a study done in Ethiopia [16] and Rwanda [17] where the prevalence of major depression in epileptic patients was found to be 49.3% and 6.5% respectively.

The very high prevalence noted in our study may be since majority of the patients lacked family support, lived alone and probably suffered stigma due to the epileptic condition which was of long duration (median 16 years) in most cases. It is plausible that the prevalence of epilepsy and depression co morbidity, as well as its negative health and socioeconomic consequences, would be higher in our environment, where epilepsy is stigmatized and adequate treatment is scarce.

Because epilepsy is often perceived as a curse, a mental illness, or a contagious disease, people with epilepsy may face severe isolation and discrimination in many areas of life (as evidenced by the fact that most patients in our study lived alone). In our study, the prevalence of depression in PWE was far higher than in high-income countries. The pooled prevalence of depressive disorders was 22.9 percent in a meta-analysis of 27 studies involving mostly Western articles [20]. The findings were lower than in most African studies, including ours, most likely because depression is diagnosed and treated earlier in the Western world.

In our study, the prevalence of suicidal ideation among PWE was low, with 92 percent of participants classified as having a low risk of suicide ideation. This finding contradicted the findings of other researchers, who found that suicidal ideation was prevalent in 29.8% of Ethiopians [21], 23.5 percent of Egyptians [22] and 11.9 percent of Washington tertiary epilepsy clinics [23]. The current study's findings lower than those of studies conducted in a Canadian study where suicidal ideation rate was 12.7 percent [24]. Similar studies in Poland [25], Rio de Janeiro, Brazil [26], Republic of China [27] and Nigeria [28] found 10%, 13.3%, 14.3% and 20.0 percent suicidal attempt, respectively, which was all higher than the current study. Our study's differences could be due to disparities in sample size, study design, study participants, culture, time variation, and setting.

In our study, there was no association between major depression and suicidal ideation in patients living with epilepsy. All of the other demographic and clinical variables had p values greater than 0.05. The results of this study contradicted those of other researchers. For example, a study conducted in Ethiopia found that being a female, living alone, being single, and divorced/widowed in marital status, anxiety, depression, history of suicidal attempt in the family, co morbid medical illness, and poor social support were all crucially associated with suicidal attempts in PWE.

Suicidal ideation was 3.18 times more likely in depressed respondents compared to non-depressed respondents [29]. Other studies in Washington [23], Canada [24], Bosnia and Herzegovina [30], Poland [25] Brazil, Malaysia [31], Korea [14], Nigeria [28] and Addis Ababa Ethiopia [21] contradicted our findings. The presence of depression was strongly linked to suicidal ideation, according to these studies. The disparity with our findings may have been due to the fact that our study had a small sample size and constituted patients who were being seen regularly by Psychiatrists and counseling and discussions on suicide may have been done at various levels of their treatment.

Limitations of the Study

The study had several limitations. The sample size was small and the number of epileptic patients who consistently visited the hospital for their appointment was limited. The study duration and data collection period could not be extended so as to potentially increase the

number of participants in the study. Due to the advent of the COVID-19 pandemic which led to reductions in patient flow especially those with non - critical conditions, patients with epilepsy were being managed at clinics and with some not presenting for reviews. The study, however, did provide a baseline statistic on the clinical profiles of patients living with epilepsy.

Conclusion

Epilepsy remains a misunderstood condition in our setting. Suicidal attempts were not common among PWE in this study, but major depression and a lack of family and social support were prevalent among epileptic patients.

Recommendations

It is recommendable to place an emphasis on screening patients with epilepsy for major depression and to enlist social security assistance in their care. Providing depression intervention and treatment to patients, as well as targeting predisposing factors to these groups of people, is also critical during routine clinical evaluation. A similar study can be conducted at multiple institutions with a larger sample size, allowing the results to be generalizable to a larger population.

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Bibliography

1. Bettina Schmitz. Encyclopedia of the human brain (2002).
2. LB Venevivi., *et al.* "Determining treatment levels of Co-morbid Psychiatric Conditions in People with Epilepsy Attending selected local clinics in Lusaka, Zambia" (2016).

3. Ravi Paul, *et al.* "The Psychosocial Impact of Epilepsy; A study on Adult People with Epilepsy Attending Clinics in Lusaka" (2015).
4. Berhanu B Biftu, *et al.* "Depression among Patients with Epilepsy in North West Ethiopia: A cross sectional institution based study" (2015).
5. Hope Muwanei Sikuka, *et al.* "Epilepsy and the Stigma Tag: A personal Experience" (2016).
6. Dessie Mulugeta H, *et al.* "Depression Among epileptic patients and its association with drug therapy in sub-Saharan Africa: A systematic review and meta-analysis". *PLoS ONE* 14.3 (2019): e0202613.
7. Black DW and Andreasen NS. "Introductory textbook of psychiatry". Eleventh edition (2014).
8. Ganti L, *et al.* "First aid for the® psychiatry clerkship". Fourth edition (2016).
9. WHO, Epilepsy (2019).
10. Andres M Kanner. "Depression in Epilepsy: A Neurobiologic Perspective" (2005).
11. Yotin Chinvarun, *et al.* "Prevalence of Depression among Epileptic patients at Phramongkutklo Hospital" (2007).
12. Grabowska-Grzyb A, *et al.* "Risk factors for depression in patients with epilepsy". *Epilepsy and Behavior* 8 (2006): 411-417.
13. Oh-Young Kwon and Sung-Pa Park. "Depression and Anxiety in people with Epilepsy" (2014).
14. Lim Hye-Won, *et al.* "Predictors of Suicidal Ideation in People with Epilepsy Living in Korea". *Journal of Clinical Neurology* 6 (2010): 81-88.
15. Baker GA, *et al.* "The Stigma of Epilepsy: a European perspective". *Epilepsia* 41 (2000): 98-104.
16. Tsegabrhan H, *et al.* "Co- morbidity of depression and epilepsy in Jimma University specialized hospital, SouthWest Ethiopia". *Neurology India* 62.60 (2014): 649.
17. Michel Mutabezi. Adherence and Treatment Outcomes among Patients with Comorbidity of Depression and Other Mental Disorders attending Psychiatric Hospitals in Rwanda: Kenyatta University" (2014).
18. Engidaw NA, *et al.* "Prevalence of depression and associated factors among epileptic patients at Ilu Ababore zone hospitals, South West Ethiopia, a cross sectional study" (2017).
19. United Nations-World Population Prospects.
20. Scott AJ, *et al.* "Anxiety and depressive disorders in people with epilepsy: A meta-analysis". *Epilepsia* 58.6 (2017): 973-982.
21. Haile K, *et al.* "Suicide ideation and attempts among people with epilepsy in Addis Ababa, Ethiopia". *Annals of General Psychiatry* (2018): 17-14.
22. Hamed SA, *et al.* "Risks of suicidality in adult patients with epilepsy". *World Journal of Psychiatry* 2.2 (2012): 33-42.
23. Hecimovic H, *et al.* "Depression but not seizure factors or quality of life predicts suicidality in epilepsy". *Epilepsy and Behavior* 24.4 (2012): 426-429.
24. Altura KC, *et al.* "Suicidal ideation in person with neurological conditions: prevalence, associations and validation of the PHQ-9 for suicidal ideation". *General Hospital Psychiatry* 42 (2016): 22-26.

25. Bosak M., *et al.* "Suicidality and its determinant among Polish patients with epilepsy". *Neurologia i Neurochirurgia Polska* 50 (2016): 432-438.
26. Wigg CMD., *et al.* "The relationship between sleep quality, depression, and anxiety in patients with epilepsy and suicidal ideation". *Arquivos de Neuro-Psiquiatria* 72 (2014): 344-348.
27. Ding S., *et al.* "Risk factors for suicidal tendency in adult patients with epilepsy in China". *Epilepsy and Behavior* 97 (2019): 118-122.
28. Nuhu FT., *et al.* "Suicide risk among adults with epilepsy in Kaduna, Nigeria". *General Hospital Psychiatry* 35 (2013): 517-520.
29. Nigussie K., *et al.* "Magnitude and associated factors of suicidal ideation and attempt among people with epilepsy attending outpatient treatment at primary public hospitals in northwest Ethiopia: a multicenter cross-sectional study". *BMJ Open* 11 (2021): e043227.
30. Loga And Rijić N., *et al.* "Suicidal ideation and thoughts of death in epilepsy patients". *Psychiatria Danubina* 26 (2014): 55.
31. Oliveira GNM., *et al.* "Suicidality in temporal lobe epilepsy: measuring the weight of impulsivity and depression". *Epilepsy and Behavior* 22 (2011): 745-749.

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