

Review

Interictal Psychiatric Morbidity in Adult Patients with Epilepsy in South East Nigeria

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Abstract

Background

Epilepsy is the commonest neurological disorder presenting to medical clinics in Africa. Psychiatric co morbidity in epilepsy has been well described as an often under-recognized but significant component of the illness. There is paucity of data from the South East region of Nigeria, the most populous African country.

Aim

This cross-sectional study sought to evaluate the frequency and pattern of psychiatric comorbidity of people living with epilepsy in Enugu, South East Nigeria.

Methods

Consecutive epilepsy patients aged ≥ 16 years attending the neurology out-patient clinic of the University of Nigeria Teaching Hospital, Ituku-Ozalla, Enugu, and who had no progressive neurological or psychiatric condition were recruited over a 6-month period (October 2013 – March 2014). Informed consent as well as socio demographic data was obtained and each patient was evaluated for psychiatric morbidity using the Mini International Neuropsychiatry Inventory.

Results

The overall prevalence of psychiatric morbidity found was 55.2%. Mood disorders (comprising depression, depression with post traumatic stress disorder, depression with suicidal ideation and dysthymia) accounted for 38.8% of cases while those with anxiety disorders (generalized anxiety disorder, panic disorder, post traumatic stress disorder and social phobia) made up 16.4% of cases with psychiatric morbidity. There was no significant association of this psychiatric morbidity with identified variables.

Conclusion

This study confirmed that Nigerian epilepsy patients have psychiatric disorders as co-morbidities. If not routinely screened for and identified, the presence of a psychiatric morbidity may serve as a significant impediment to the optimal case management and reduce quality of life for people living with epilepsy.

Keywords: Co morbidity; Epilepsy; Psychiatric; Nigeria.

Introduction

Epilepsy, the tendency to have recurrent afebrile seizures, is the

commonest neurological disorder presenting to medical clinics in South East Nigeria and much of Africa [1, 2]. Of the millions of people with epilepsy (PWE) worldwide, the developing countries of Africa, Asia and South America are home to the vast majority [1].

The few community based studies of epilepsy conducted in the South West region of Nigeria reported a prevalence range of 5.3 to 37 per 1000 population [3, 4, 5]. In the South East region, epilepsy is very commonly encountered in the communities and is the commonest disorder presenting to the Neurology Clinic in Enugu [1, 6].

Psychiatric and behavioural disorders can predate epilepsy and vice versa. This bidirectional relationship suggests that structural and functional modification of one disease increases the risk of development of the other [7]. Several studies have reported higher prevalence of psychotic disorder among people with epilepsy than in the general population. Neuropsychiatric disorders may share common genetic variation with epilepsy [8-15]. The variation of prevalence rates reported is wide and range from 0.48% to 35% [16, 17].

Gaitatzis et al, in a review of population based studies reported that prevalence of various psychiatric disorders in persons with epilepsy were 30% for depression, 10-25% for anxiety disorders and 2-7% for psychosis [18].

In Nigeria, available data on the range of psychiatric comorbidity in epilepsy have been principally from the South West region, using different age groups and instruments [19-22]. Gureje using the Clinical Interview Schedule (CIS) in a neurological out-patient

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clinic amongst an unselected sample of 204 adult patients with epilepsy reported a prevalence of 37.3% for psychiatric morbidity [19]. Adewuya and colleagues using the Diagnostic Interview Schedule for Children-version IV (DISC-IV) to interview 166 adolescents with epilepsy reported a prevalence of 65.1% for any psychiatric disorder, 33.1% for any anxiety disorder and 30.1% for any depressive disorder [20]. Okubadejo using the Zung's self rating depression scale (SDS) in 214 adults with epilepsy noted a 26% rate of clinically severe depressive symptoms [22].

From Enugu, South East Nigeria, Onwuekwe and colleagues in 2012 reported a frequency of 16.8% for mild to moderate depression in patients with epilepsy, using the Becks Inventory for Depression Scale [23]. Generally it's been recognized that hospital based studies return higher rates of depression than what is obtained in community based studies (as much as 58% versus 22% respectively) [24-27].

This study will evaluate psychiatric morbidity and associated socio demographic variables in persons with epilepsy in the Neurology Clinic of the University of Nigeria Teaching Hospital in Enugu, South East Nigeria.

Methodology

Study Area

The study was carried out at the University of Nigeria Teaching Hospital, Ituku-Ozalla, Enugu which is the major Federal Government-owned tertiary health care provider in the South East region of Nigeria. The adult Neurology clinic is run weekly by the Consultant Neurologist and PWE make up about a third of over 750 patients seen annually [1].

Study Population

This was a descriptive cross-sectional study of adult patients (≥ 16 years old) with epilepsy who were consecutive attendees of the Neurology outpatient clinic between October 2013- March 2014. Subjects were seizure-free for at least 24 hours and gave written informed consent. Patients with epilepsy were usually required to have an electroencephalography done as part of the routine work-up. Those with pre-existing history of psychiatric disorders, stroke, and brain tumour or brain surgery were excluded from the study.

Sampling Technique

Total sampling was done in recruiting patients into this study.

Instruments

Socio-Demographic Questionnaire

A socio demographic questionnaire was designed by interviewer to record bio-data and socio demographic variables and pretested to ensure clarity and adequacy.

Mini International Neuropsychiatry Interview (MINI)

The MINI is a short structured diagnostic interview used by

psychiatrists and clinicians. It was developed in 1990 and assesses the disorders of the DSM-IV and ICD-10. It covers 17 Axis I disorders (i.e., mood, anxiety, substance use, psychotic, and eating disorders), a suicidality module and one Axis-II disorder (i.e., Antisocial Personality Disorder), with most disorders having a timeframe of 2-4 weeks except for two disorders.

A follow-up module is included for each individual disorder for which the respondent has a positive initial screen. It was designed for multi-centre clinical trials as well as epidemiology studies and to be used as a screening instrument in non-research clinical settings.

The MINI has been validated against the Structure Clinical Interview (SCID-P) for DSM diagnoses. Validation and reliability studies have been done comparing the MINI to the SCID-P for DSM-III-R and the CIDI (a structured interview developed by the World Health Organization for lay interviewers for ICD-10). The results of these studies show that the MINI has acceptably high validation and reliability scores, but can be administered in a much shorter period of time (mean 18.7 ± 11.6 minutes, median 15 minutes) than the above referenced instruments [27].

Ethical Clearance

Ethical clearance was obtained from the Ethical Committee of the University of Nigeria Teaching Hospital, Ituku-Ozalla, Enugu.

Statistical Analysis

Analysis was done using Statistical Package for the Social Sciences (SPSS) version 16.0 (Chicago, Illinois). Descriptive statistics were used to compute means and standard deviations for numerical variables as well as frequencies for nominal and ordinal variables. The relationship between categorical responses and explanatory variables were evaluated using chi-square test. In all statistical tests, a value of $P < 0.05$ was considered significant.

Results

Out of the 67 (100%) patients interviewed, 30 (44.8%) had no psychiatric disorders. Thirteen (19.4%) had depression, 1 (1.5%) had depression with post traumatic stress disorder (PTSD), 4 (6%) had depression with suicidal ideation while 8 (11.9%) had dysthymia.

Five (7.5%) had generalized anxiety disorder (GAD), 2 (3%) had panic disorder, 2 (3%) had PTSD and 1 (1.5%) had social phobia.

When aggregated, those with mood disorders (i.e. depression, depression with PTSD, depression with suicidal ideation and dysthymia) were 26 (38.8%) while those with anxiety disorders (i.e. GAD, panic disorder, PTSD and social phobia) were 11 (16.4%).

The overall prevalence of psychiatric morbidity was 37 (55.2%).

Sociodemographic Variables and Associations with Psychiatric Morbidity

Gender: Of the 67 (100%) subjects interviewed, 41 (61.2%) were

Table 1: Prevalence of psychiatric morbidity and association with socio demographic variables

Psychiatric Morbidity (Overall)	Mood Disorders	Anxiety Disorders	Nil	
37 (55.2%)	26 (38.8%)	11 (16.4%)	30 (44.8%)	
Sociodemographic variables	Number (%)	Psychiatric Morbidity	None	Statistics
Gender				X ² = 1.774
Male	41 (61.2%)	20 (29.9%)	21 (31.3%)	Df= 1
Female	26 (38.8%)	17 (25.4%)	9 (13.4%)	P= .138
Marital Status				X ² = 2.736
Single	47 (70.1%)	29 (43.3%)	18 (26.9%)	Df= 2
Married	17 (25.4%)	7 (10.4%)	10 (14.9%)	P= .225
Widowed	3 (4.5%)	1 (1.5%)	2 (3.0%)	
Occupation				X ² = .045
Employed	30 (44.8%)	17 (25.4%)	13 (19.4%)	Df= 1
Not Employed	37 (55.2%)	20 (29.9%)	17 (25.4%)	P= .831
Education				X ² = 4.724
Primary	20 (29.9%)	7 (10.4%)	13 (19.4%)	Df= 2
Secondary	30 (44.8%)	19 (28.4%)	11 (16.4%)	P= .094
Tertiary	17 (25.4%)	11 (16.4%)	6 (9.0%)	

males while 26 (38.8%) were females. Amongst the males 20 (48.8%) had psychiatric morbidity, 21 (51.2%) had none. Out of the 26 females interviewed 17 (65.4%) had psychiatric morbidity while 9 (34.6%) did not have. There was no significant association between gender and presence of psychiatric morbidity (p = 0.138).

Marital Status

Forty seven subjects (70.1%) were single, 17 (25.4%) married and 3 (4.5%) widowed. Among the single, 29 (61.7%) had psychiatric morbidity while 18 (28.3%) did not have. There was no significant association between marital status and presence of psychiatric morbidity (p= 0.225).

Employment

Of the subjects interviewed, 30 (44.8%) were employed while 37 (25.4%) were unemployed. Seventeen (56.7%) of the employed had psychiatric morbidity while 13 (43.3%) did not have. For the unemployed, 20 (54.1%) had psychiatric morbidity while 17 (45.9%) did not have. There was no significant association between employment and presence of psychiatric morbidity.

Educational Level

Twenty subjects (29.9%) attained primary education, 30 (44.8%) attained secondary education and 17 (25.4%) attained tertiary education. Out of those that attained primary education, 7 (35%) had psychiatric morbidity while 13 (65%) did not have. Of those

that attained secondary education, 19 (63.3%) had psychiatric morbidity while 11 (36.7%) did not have. Amongst those that attained tertiary education 11 (64.7%) had psychiatric morbidity while 6 (35.3%) did not have. There was no significant association between educational level and psychiatric presence of morbidity (p= 0.094).

Discussion

This study found an overall psychiatric morbidity prevalence of 55.2% (depression 38.8%, anxiety disorders 16.4%) among adult patients with epilepsy attending the Neurology clinic of the University of Nigeria Teaching Hospital Enugu, South East Nigeria. This figure is in tandem with reports of other hospital based studies in which psychiatric morbidity ranges from 27% to 58% in PWE [24, 25].

The finding of this study however vary from the psychiatric morbidity prevalence of 65% reported by Adewuya et al [20], 20%-50% prevalence range reported by Bragetti et al [12]. In a review and 37.3% found by Gureje in a study from a Southern Nigeria Hospital [19].

In the study by Gureje, Clinical Interview Schedule was used while this study used MINI. Though both studies were done in Nigeria, different ethnic groups were involved.

The reported prevalence of 20%-50% by Bragetti et al. In a population based review is lower than this study found. Population based

studies generally seem to report lower prevalence than hospital based studies. It may be that treatment seeking populations exhibit more severe symptoms and have more co-morbid psychiatric conditions.

Within the overall psychiatric morbidity of 55.2% found in this study, 38.8% had depressive disorders, a figure which is lower than the 85% depression prevalence reported in a previous study in the region of Eastern Nigeria by Onwuekwe et al [23]. The difference could be due to the particular instruments used. Onwuekwe et al in their study used the Becks Depression Inventory (BDI) and subjects with minimal depression symptoms were included while this study used MINI which is structured for DSM IV diagnostic criteria.

The prevalence of anxiety disorder found in this study was 16.4%. The reported prevalence of anxiety disorders in epilepsy widely varies from 14% to 78% [20-31].

The 11% prevalence reported by Gaitatzis et al [18] from a primary care record of a large study is lower than the 16.4% prevalence in this study which is a hospital based study.

Using the same instrument (MINI) in five epilepsy centres in USA, Kanner et al reported an anxiety disorder prevalence of 26% among people with epilepsy [31]. This prevalence variation from the our study finding could be contributed to by cultural differences. A German study by Brandt et al using Clinical Interview for DSM IV diagnosis reported an anxiety disorder of 19.6% among consecutive outpatients with epilepsy [32].

Cultural and methodological differences could explain the variations of our reported 16.4% prevalence of anxiety disorders from those of a Northern Nigeria study of consecutive attendees of people with epilepsy by Folorunsho et al [33] and a Western Nigeria study by Adewuya et al [18]. These studies reported anxiety disorder prevalence of 20% and 32.2% respectively with Hospital Anxiety and Depression Scale (HADS) and Diagnostic Interview Schedule (DIS) version IV.

Conclusion

People living with epilepsy in South East Nigeria, from these study findings, have a considerable additional burden of psychiatric morbidity which in instances may easily be under-diagnosed or overlooked by physicians. The attendant consequences include poor response to management and a decreased quality of life. It is important for clinicians attending to patients with epilepsy to remember to routinely screen for possible psychiatric co-morbidities especially in the setting of busy understaffed clinics in resource challenged settings.

Limitations

This was a hospital based study which limits the extent of conclusions that can be drawn from findings as against a community based study. Similarly larger, multicentre studies will allow for more comparative and comprehensive studies.

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Authors' contributions

OI conceived and designed the study with UN. Data collection was done by OI and UN while UN analysed the data. OI, UN and OI wrote the manuscript while OI edited the final copy. All authors approved the final manuscript. UN is the guarantor of the manuscript.

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