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Prevalence and Pattern of Psychiatric Morbidity among People Living with Human Immunodeficiency Virus in Kano

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Abstract

Background: Human immunodeficiency virus/ Acquired immunodeficiency syndrome (HIV/AIDS), has remained a disease of public health concern, with the largest burden being found in sub Saharan Africa. The advent of anti-retroviral therapy (ART) has significantly reduced the mortality of the disease, thereby transforming it to a chronic disorder, with significant co-morbid psychiatric sequalae.
Objectives: To determine the prevalence and pattern of psychiatric morbidity among PLWHA attending Aminu Kano Teaching Hospital, Kano.
Materials and methods: This was a cross sectional study of adult patients with HIV/AIDS attending outpatient clinic at the S.S. Wali Virology Centre of Aminu Kano Teaching Hospital who gave informed consent. Systematic random sampling technique was used.
Patients aged 18years and above who had been on ARV drugs for at least one year were included, while those who had a medical emergency and needed immediate attention were excluded.
Socio demographic characteristics were obtained using a socio-demographic questionnaire and psychiatric morbidity was assessed with the MINI International Neuropsychiatry Interview.
Results: A total of 420 participants were recruited in the study with a male to female ratio of 1:1.5 and mean age of 40.4±10.0 years. The prevalence of a psychiatric disorder was 22.1% out of whom 5.0% had more than one psychiatric diagnosis. Major depression was the most common (11%) psychiatric disorder. Generalized Anxiety disorder, substance abuse, post-traumatic stress disorder and alcohol abuse accounted for 7.6%, 5.5%, 2.4% and 1.7% of psychiatric disorders respectively.
Conclusion: Psychiatric disorders are common in PLWHA, with major depression being the commonest.

Keywords: Prevalence, pattern, psychiatric morbidity, PLWHA

Introduction

Human immunodeficiency virus/ Acquired immunodeficiency syndrome (HIV/AIDS), a communicable disease has remained a disease of public health concern. Worldwide, about 38 million people are infected with the virus, with only 25.4million of them receiving antiretroviral (ARV) drugs as at the end of 2019.[1] The largest burden of the disease is found in sub Saharan Africa,[1] with Nigeria (being second place to South Africa) accounting for 1.9million cases out of the 25.7 million cases in the region.[2] The advent of antiretroviral therapy (ART) has drastically reduced the mortality rate among people living with HIV/AIDS (PLWHA), with associated increased life expectancy, thereby transforming the disease from a fatal one to a chronic condition with various degrees of co-morbid medical and psychiatric disorders.[3,4]

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Psychiatric and substance use disorders may be associated with unsafe sexual practices and needle sharing which increases the likelihood of HIV transmission thereby worsening disease progression, in addition to being a significant cause of disability.[4] On the other hand, the diagnosis of HIV could be distressing enough to cause symptoms such as fear, depressed mood, feeling of guilt, anxiety and suicidal ideations. The stigma and social discrimination associated with HIV/AIDS diagnosis may also increase the likelihood of developing a psychiatric disorder.[5]

Studies have shown that psychiatric disorders occur commonly in PLWHA with prevalence of between 25.1% and 36.4%, these figures are higher than what obtains in the general population, with major depression being the commonest in many studies.[5,6] This has led to recommendations for the need to integrate comprehensive Psychiatric services in the care of PLWHA.[6] Prior knowledge of pattern of psychiatric morbidity in PLWHA will aid surveillance in the clinics, thereby translating to better clinical outcome and improved quality of life for them.

Based on this background, the objective of this study was to determine the prevalence and pattern of psychiatric morbidity among PLWHA attending Aminu Kano Teaching Hospital, Kano.

Materials and Methods

The study was a cross sectional study of adult patients with HIV/AIDS attending outpatient clinic at the S.S. Wali Virology Centre of Aminu Kano Teaching Hospital who gave informed consent.

Systematic random sampling technique was used.

Inclusion criteria were age 18years and above and having been on ARV drugs for at least one year, while patients who had a medical emergency and needed immediate attention were excluded.

Socio demographic and clinical variable questionnaire was used to obtain data such as age, gender, marital status, level of education, occupational status and clinical data such as duration of HIV diagnosis, ARV treatment, current viral load, CD4 count before commencing ARV drugs and co-morbid conditions.

The M.I.N.I International Neuropsychiatry Interview version 6 was used to assess the presence of psychiatric morbidity. It is a brief structured clinical interview which enables researchers to make diagnosis of psychiatric disorders, and consists of 16 modules, each representing a diagnostic category. Five out of the sixteen modules of MINI were used in this study and include; depression, post-traumatic stress disorder, generalized anxiety disorder, alcohol and substance abuse/dependence modules.

All the data were entered into Microsoft Excel for data cleaning, and exported into Statistical Package for Social Sciences (SPSS 20) for analysis. Data were presented using Frequency tables, numbers and charts. Quantitative variables were summarized using mean and standard deviation (if normally distributed), median and range if not normally distributed. Independent sample t test was used to compare means. Qualitative/categorical variables were summarized using proportion or percentage. Chi square was used to compare proportion where appropriate. Confidence interval was 95% and P value $\leq$ 0.05 was considered significant. The proportion of PLWHA who were diagnosed with psychiatric disorders was determined by dividing the total number of PLWHA who were diagnosed with psychiatric disorders by the sample size.

Ethical clearance was obtained from the ethical board of AKTH and each participant signed an informed consent form.

Results

A total of 420 participants were recruited in the study with a male to female ratio of 1:1.5.

The mean age was 40.4±10.0 years. The age group 30-39 years had the highest proportion of participants. About 83% and 59.3% of the participants were Muslims and married respectively. About two-thirds of the participants had some formal education while 75% were employed.

99.5% of the participants were in HIV Clinical stage 1. Duration of HIV diagnosis was 1-20years with a mean of 8.5± 4.3years.

The prevalence of a psychiatric disorder was 22.1%, out of whom 5.0% met the criteria for more than one psychiatric diagnosis.

Major depression was the most common (11%) psychiatric disorder. Generalized Anxiety disorder, substance abuse, post-traumatic stress disorder and alcohol abuse accounted for 7.6%, 5.5%, 2.4% and

Table 1: Socio-demographic characteristics of participants (n=420)

Variables	Frequency (%)
Age group (in years)	
18-29	55(13.1)
30-39	145(34.5)
40-49	125(29.8)
50-59	84(20.0)
≥60	11(2.6)
Gender	
Female	251(59.8)
Male	169(40.2)
Religion	
Christianity	69(16.4)
Islam	351(83.6)
Ethnicity	
Hausa/Fulani	319(76.0)
Igbo	19(4.5)
Yoruba	13(3.1)
Others	69(16.4)
Marital Status	
Married	249(59.3)
Single	41(9.8)
Divorced	45(10.7)
Widowed	83(19.8)
Separated	2(0.5)
Level of education	
No formal	120(28.6)
Primary	62(14.8)
Secondary	140(33.3)
Tertiary	98(23.3)
Employment status	
Employed	315(75.0)
Unemployed	105(25.0)

Table 2: Pattern of psychiatric diagnosis among participants.

Variables	Frequency	%
Psychiatric diagnosis*		
Depression	46	11.0
Post-traumatic stress disorder	10	2.4
Alcohol dependence/abuse	7	1.7
Generalized and anxiety disorder	32	7.6
Substance dependence/abuse	23	5.5

*= some participants had comorbid psychiatric diagnosis such as comorbid anxiety depression, depression and post-traumatic stress disorder etc.

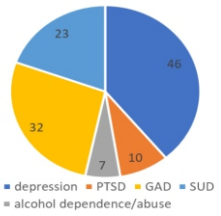

Figure 1: Pattern of psychiatric diagnosis among participants

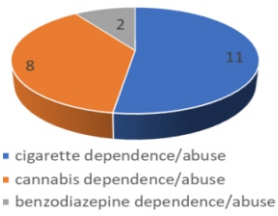

Figure 2: Pattern of psychoactive substance use among participants

1.7% of psychiatric disorders respectively.

Among the substances used by the participants, cigarette use/dependence was most prevalent (2.6%), followed by cannabis use/dependence (1.9%), and benzodiazepine abuse (0.5%).

Discussion

Our study found a female preponderance, this is in keeping with findings from another study, where 64.3% of their participants were females.[7] This could be a reflection of the higher prevalence of HIV among women in the general population,[8] as women are more prone to contracting the disease because of biological factors such as increased mucus area exposed to the high concentration of virus in the sperm during penetrative sex, cultural and sexual norms, lack of education amongst other reasons.[9] It has also been found that majority of women living with HIV are found in the developing countries.[10] More so, the study location is made up predominantly of people who practice the Islam religion, with the practice of polygamy being permitted. This could lead to heightened risk because of the multiple sexual partners involved, aiding the spread of the disease amongst women. Furthermore, the higher proportion of women in this study could be linked to early diagnosis amongst females during routine investigations, such as during ante- natal care.[11]

We also found that there was a high proportion of participants in the age range 30-39 years. This has been replicated by another study.[7] The reason for this is not farfetched as this is a period of heightened sexual activity with some individuals settling with a life partner. The mechanisms of contracting HIV infection are numerous, however in Nigeria transmission through sexual intercourse accounts for majority of cases.[12,13] Similar to findings from another study,[7] close to 60% of our participants were married. This is not surprising as majority of the study population were females, who are likely to have been married off early as a cultural norm in this environment. The level of education among participants showed that over two third had formal education, with secondary school leavers having the highest proportion of 33.3%. This was similar to the finding in previous studies[7,14,15] and in the index study may be related to difficulty continuing education post-secondary level because of high rate of poverty and child marriage as previously stated, as many female children marry after the completion of their secondary education, while the males may take up businesses as Kano is termed a commercial center.

The prevalence of a psychiatric disorder was 22.1% in our study. This is lower than the prevalence obtained in a controlled study carried out in Osun State, Western Nigeria with a prevalence of 59.1%.[16] Another study done in Southern Nigeria found a prevalence of 30.4%.[7] The various prevalence obtained could be as a result of the different diagnostic tools used. However, a Zambian study,

utilizing the same diagnostic instrument (MINI) used in this study found a prevalence of 17.3% which is quite close to the prevalence obtained in this study.[17] This same study found a co-morbid psychiatric diagnosis of up to 7%, a finding in tandem with the 5.0% found to have co-morbid psychiatric diagnosis in the current study. Furthermore, the low prevalence of psychiatric disorders in this study could be due to the fact that the study participants had been diagnosed with HIV for at least one year, and they may have come to terms with the diagnosis. In addition, majority of them were in HIV clinical stage 1, which is the asymptomatic stage.

Depression was the commonest psychiatric disorder in our study. This is in conformity with findings of several studies noting depression as the commonest psychiatric disorder in PLWHA with prevalence of between 14.2-16.2%[7,18] while others have found prevalence of depression of up to 40%.[19-21] Several reasons have been postulated for the common occurrence of depression in PLWHA. Ranging from damage to the limbic system which is meant to regulate emotions to a defect in the monoamine system believed to have a role in the pathogenesis of major depression.[22] Other factors include dysregulation of the hypothalamic-pituitary adrenal axis and release of inflammatory cytokines. Furthermore, the stigma, social isolation and reduced quality of life experienced by PLWHA may also be a precipitant for depression.[5]

Generalized anxiety disorder was found to be the second most common psychiatric disorder in the index study. This finding is supported by reports from other studies, and infact high level co-morbid occurrence of depression and anxiety among PLWHA has been described.[16,17] Anxiety could occur as a result of "threat" events which have been linked to anxiety generally. Amongst others, fear of dying, fear of rejection and perceived fear of spontaneous co-morbid medical conditions, are possible reasons PLWHA may develop an anxiety disorder.[7]

We found substance abuse/dependence to be the third most common psychiatric disorder. Association between psychoactive substance abuse and HIV have been well documented in the literature, and there seems to be a bidirectional relationship. The abuse of psychoactive substance may be a way of coping with the stigma and ostracization associated with HIV/AIDS,[23] this could predispose the individual to dangerous behaviors such as needle sharing, with the consequence of development of other infections such as hepatitis, on a background of immunosuppression, thereby worsening clinical outcome. In the same vain, psychiatric disorders could predispose an individual to the use of psychoactive substance or to engage in risky behaviors that may make them contract the virus.

The knowledge of the diagnosis of HIV may predispose to post- traumatic stress disorder (PTSD). A previous study found that 93% of adolescents and young adults living with HIV reported as traumatic experience being aware of their HIV status, of which 13.3% met the diagnostic criteria for PTSD.[24] In this study, we found the prevalence of PTSD to be 2.4%. This is in close proximity to the 3% found in a similar study in Southern Nigeria.[7] However other studies have found prevalence rates of between 15% and 64%.[25-27] The catastrophic perception of HIV/AIDS could account for why an individual develops PTSD. The low prevalence of PTSD found in this study may be because participants recruited for this study have been on treatment for at least one year, and may have learned to cope with the condition. Also, the hospital has an elaborate voluntary counselling and testing (VCT) unit where pre and post HIV test counselling are offered to clients, this may have reduced/alleviated the trauma associated with knowing their retroviral status.

Alcohol dependence/abuse was the least common disorder among PLWHA in our study. This is lower than what was obtained in a study where substance use disorder including mainly alcohol had a prevalence of 2.6%[7] and another study in which alcohol use disorder was the most common psychiatric disorder with a prevalence of 9.2%.[17] In the former study, all substance use disorders were lumped together with alcohol. It is likely that if alcohol use disorder was separated as an entity on its own, its obtained prevalence could be similar to ours. However, that alcohol dependence/abuse had a low prevalence in our study is not surprising because based on the culture and Islamic faith being practiced by majority of the people in Kano, being Hausa/Fulanis, the Islamic faith prohibits the

consumption of alcohol. Alcohol use is associated with poor adherence to Antiretroviral medications due to repeated intoxication which impairs attention, memory and organization, thereby making the individual to miss his medication or not to take it at the right time. [28,29]

The reason for the pattern of substance dependence/abuse in the index study; that is, cigarette dependence being the highest, followed by cannabis dependence and benzodiazepine dependence being the least with prevalence rates of 2.6%, 1.9% and 0.5% respectively is understandable because our study utilized self-report in assessing the pattern of substance use, and this method is prone to bias and participants may not easily disclose their substance use status because it may be culturally unacceptable. Nonetheless in a previous local study alcohol was the commonest substance used (25.5%), followed by cannabis (23.5%), benzodiazepine (18.4%) and opiate (11.2%).[30] The huge disparity in the prevalence and pattern of substance dependence/abuse in the local study compared to ours could be the use of urine drug screening method employed in the local study, which is a more objective method of assessing current psychoactive substance use than the use of self-report. The same reason above probably explains why despite media reports of high prevalence of drug abuse in the Northern part of Nigeria (particularly Kano state), the national drug survey report (2018) found the prevalence of drug abuse to be higher in the southern part of Nigeria than in the North, with prevalence of 13.8-22.4% in the south compared with 10-13.6% in the northern geopolitical zones.[31]

Limitation of the study: Despite our findings, a causal relationship cannot be established from the study. Also, our self- report method of assessing substance use is subject to bias.

Nonetheless, the strength of the study lies in the fact that diagnostic tools, rather than screening tools were utilized in detecting psychiatric morbidities in the participants.

Conclusion

We found that psychiatric morbidity is common in PLWHA with a prevalence of 22.1%. The commonest psychiatric disorder was major depression, followed by generalized anxiety disorder, substance dependence/abuse, post-traumatic stress disorder and alcohol dependence/abuse respectively. Cigarette was the most commonly used substance, followed by cannabis and benzodiazepine.

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