

A Study on Epidemiological Profile of Anxiety Disorders Among People Living with HIV/AIDS in a Sub-Saharan Africa HIV Clinic

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Abstract The aim of this study is to find out the prevalence, types and correlates of anxiety disorders among people living with HIV/AIDS (PLWHA) attending a sub-Saharan Africa HIV clinic. Three hundred HIV positive adults were subjected to semi-structured clinical interview using the Schedule for Clinical Assessment in Neuropsychiatry to diagnose anxiety disorders in them. Additionally, a socio-demographic/clinical profile questionnaire designed for the study was administered to the study participants. The prevalence of anxiety disorders among PLWHA in this study was 21.7 %, and anxiety disorder unspecified (6.2 %), mixed anxiety-depressive disorder (5.3 %) and social phobia (4 %) among others were the subtypes of anxiety disorders elicited among the participants. Lack of family support [correlation coefficient (r) = 0.212, $P < 0.001$], unemployment (r = 0.168, P = 0.004) and being unmarried (r = 0.182, P = 0.002) were much more likely to be found among participants with anxiety disorders; while younger age group (r = -0.126, P = 0.039) and negative previous mental illness (r = -0.894, P = 0.021) seem protective against anxiety disorders in this study. Our findings suggest a high burden of anxiety disorders among PLWHA and up to five-folds when compared to the general population. Thus, integration of proactive mental health screening as well as treatment services with inclusion of targeted intervention for anxiety disorders among PLWHA is recommended.

Resumen El objetivo de este estudio es conocer la prevalencia, tipos y las correlaciones de los trastornos de ansiedad entre las personas que viven con VIH / SIDA (PVVS), teniendo en cuenta a las personas que viven en una clínica de VIH en el África subsahariana. Trescientos adultos VIH positivos fueron sometidos a una entrevista semi-estructurada de la clínica con el Programa para la Evaluación Clínica en Neuropsiquiatría (SCAN) para diagnosticar los trastornos de ansiedad en ellos. Además, un cuestionario de perfil socio-demográfico/clínico diseñado para el estudio, fue entregado a los participantes. La prevalencia de los trastornos de ansiedad entre las PVVS en este estudio fue de 21.7%, y el trastorno de ansiedad no especificado (6.2%), mezcla de ansiedad-trastorno depresivo (5.3%) y la fobia social (4%), entre otros fueron los subtipos de trastornos de ansiedad suscitado entre los participantes. La falta de apoyo familiar (coeficiente de correlación [r] = 0.212, $P < 0.001$), el desempleo (r = 0.168, P = 0.004) y no estar casado (r = 0.182, P = 0.002) eran factores que hacían mucho más propensos a los participantes con trastornos de ansiedad. Cuanto más joven es el grupo (r = -0.126, P = 0.039), y negativa la enfermedad mental previa (r = -0.894, P = 0.021), parecen estar más protegidos contra trastornos de ansiedad según este estudio. Nuestros resultados sugieren una alta carga de los trastornos de ansiedad entre las PVVS y hasta cinco grados en comparación con la población general. Por lo tanto, se recomienda la integración de la detección proactiva de la salud mental, así como los servicios de tratamiento con la inclusión de intervenciones dirigidas a los trastornos de ansiedad entre las personas con PVVS.

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Introduction

HIV/AIDS pandemics and the care of people living with HIV/AIDS (PLWHA) have impacted public health policies, allocation of resources and provision of health care services globally. The widespread impact of HIV/AIDS on public health issues may arguably be due to the high morbidity, significant disability and incurability among others attributable to HIV illness [1]. To care for PLWHA, mental wellbeing which is recognized as an integral aspect of health is unequivocally needful. Again, the health burden of HIV disease that is significantly due to co-morbid mental health disorders (such as depression, anxiety disorders, delirium and psychosis among others) further buttresses the importance of mental health in HIV care. This is understandably so because both HIV/AIDS and mental illnesses contribute significantly to disease burden globally [2, 3], and cause much more disease burden where they co-exist. Given the importance of mental health in HIV care, the estimation of the burden of anxiety disorders among PLWHA is justifiable because anxiety disorders have been observed in previous research as one of the common mental disorders in different contexts [4, 5]. Such estimation is even more so indicated with HIV illness currently viewed as a chronic disorder following the advent of Highly Active Antiretroviral Therapy (HAART) and the occurrence of anxiety disorders often associated with chronic medical illnesses [6].

The experience of anxiety is a common emotional reaction seen in PLWHA either at diagnosis or consequently during the course of HIV illness. However, it is needful to differentiate anxiety symptoms that constitute ‘normal’ reaction otherwise known as physiological anxiety (as seen commonly in stressful or life threatening situations) from those ‘abnormal’ anxiety symptoms referred to as pathological anxiety (as seen in anxiety disorders) [7, 8]. For instance, the feeling of anxiety by PLWHA in response to the crisis of the first knowledge of HIV seropositivity may cause prompt presentation and impacts treatment positively; while on the contrary, anxiety disorders in PLWHA are disabling mental health problems that often impair HAART and in turn, worsen HIV progression [9].

The diagnoses of anxiety disorders can be made using ICD-10 [10] criteria, when there are striking mental and physical features of anxiety that are unexplainable by other health conditions. In addition, the criteria noted that the experience of anxiety symptoms should be excessive or difficult to control; cause significant impairment or distress and be present for a specified duration in order to differentiate anxiety disorders from normal anxiety [11]. The subtypes of anxiety disorders as described in ICD-10 [10] include phobic anxiety disorders (social, agoraphobia with

or without panic disorder and specific), panic disorder, generalized anxiety disorder, mixed anxiety-depressive disorder and anxiety disorder unspecified.

As mentioned earlier, anxiety disorders in PLWHA contribute to the emotional burden of HIV/AIDS and the incapacitations associated with anxiety disorders in PLWHA may impair the social skills needed for clinic visits and treatment adherence. Additionally, anxiety disorders result in overwhelming fear in the affected patients and often result in impaired functioning as well as productivity. On the other hand, anxiety disorders if diagnosed and treated promptly can impact the outcome of PLWHA positively. To improve the overall outcome of HIV care, policies, resources, health services and programmes directed towards the care of PLWHA must be informed by best evidence emanating from research on both the physical as well as emotional burden of HIV illness. Unfortunately, most research works on the emotional burden of HIV/AIDS that is due to mental illnesses co-existing in PLWHA have focused less on anxiety disorders; and majority of the available research on anxiety disorders in HIV illness were done in the west, thus limiting their generalization to the sub-Saharan Africa region. To this end, this study aims to complement the existing data and improve on the relative dearth of information on the burden of anxiety disorders among HIV/AIDS. The specific objectives of this study is to determine the prevalence as well as types of anxiety disorders among PLWHA, and describe the correlates of anxiety disorders in them. Overall, it is expected that this study would be useful in setting guideline(s) for the planning and implementation of evidence based integration of mental health into HIV/AIDS treatment.

Materials and Methods

Study Population

The study population comprised of attendees of an adult HIV clinic located in Lagos. This HIV clinic attends to a large load of patients with about 4,000 Nigerian enrollees mainly from Lagos, neighboring states and other nearby sub-Saharan African countries like Benin, Togo and Ghana among others. The study only commenced after ethical approval was granted from the Health research and Ethical committee of the Lagos University Teaching Hospital. Furthermore, assurance of confidentiality of participants’ information was given and that those who dissent to participate would not be deprived of care in any way. Participants who had anxiety disorders were referred for care. The inclusion criteria were confirmed HIV positive status, informed consent to participate in the study, while acutely-

ill patients that require in-patient care as well as those coming for the first time for investigation were excluded.

The study participants made up of 300 HIV positive adults were recruited using a systematic random sampling method by recruiting every fifth patient that met the inclusion criteria until the total number of calculated sample size was completed. The sample size was arrived at using the sample size calculation formula for cross-sectional studies among population less than 10,000 [12]. We adopted this sample size calculation formula and systematic random sampling in order to ensure that the study population is representative of the total population of the patients in the clinic. Overall, 10 patients dissented from participating in the study.

Measure and Procedure

All the recruited participants completed a socio-demographic/clinical profile questionnaire which inquired about variables like age, sex, religion, employment status, educational level, marital status, duration of HIV illness, HIV test counseling, family support and previous history of mental illness in participants or their family. The participants were interviewed with Schedule for Clinical Assessment in Neuropsychiatry (SCAN) [13] for the presence of anxiety disorders by the researchers. The sections of SCAN [13] interview used include section 1 (beginning the interview), section 3 (worrying, tension etc.), section 4 (panic, anxiety, and phobias) and section 5 (obsessional symptoms) of the interview schedule version of SCAN. Additionally, relevant parts of sections 6 (depressed mood and ideation), section 7 (thinking, concentration, energy and interest), section 8 (bodily functions) and section 13 were used to rate the presence of both anxiety and depressive symptoms in participants where they coexist. The SCAN [13] is the latest version in the development of standardized clinical interview used to evaluate, classify and measure psychopathology and behavior in adults. The examination involves comparing the described subjective experience of the respondents against glossary description of clinical phenomenon. The elicited phenomena are used to generate ICD 10 [10] diagnosis through the use of SCAN [13] computer software (Algorithm). The SCAN [13] has the advantage of providing comprehensive description as well as reliable classification of psychiatric phenomenon and has been found to diagnose anxiety disorders with good reliability and validity in many studies [14–18] as well as across different cultural settings [14]. Prior to the commencement of this study, the researchers received formal training and certification for the use of SCAN [13] in workshops organized by the World health organization in collaboration with the National postgraduate Medical college of Nigeria.

Data Analyses

The collected data were coded and entered into computer for analyses using Statistical Package for Social Sciences (SPSS) for windows version 15.0 [19]. Descriptive statistics with test of significance were used to describe the pattern of anxiety disorders in participants and correlations between variables that were assessed as well as anxiety disorders were ascertained. The level of significance was set at $P < 0.05$ and confidence level at 95 %.

Results

Demographic/Clinical Profile of Participants

Of the 300 participants interviewed, close to two-thirds (61.7 %) were females, the mean age of participants was 36.95 (± 8.73), majority of them were Christians made of 238 (79.3 %) participants and a little above half of them 161 (53.7 %) were married. In terms of education, 143 (47.7 %) participants had secondary school education, 90 (30 %) had tertiary education and only 10 (3.3 %) had postgraduate education. The largest proportion of the subjects with employment (34 %) had semi-skilled jobs, while about a quarter (25.7 %) of them was unemployed. HIV disease and HAART had mean durations of 45.7 (± 33.7) and 34.7 (± 28.3) months respectively. About two-thirds of participants (64 %) had support from their family members and only 12 (4 %) participants had positive history of past mental illness while every 9 in 10 participants had negative family history of mental illness. The largest proportion of the participants, 174 (58 %) had HIV test counseling.

Prevalence of Anxiety Disorders Among Participants

Of the overall 300 participants in this study, 65 (21.7 %) participants were diagnosed with anxiety disorders following SCAN [12] interview. The prevalence of anxiety disorders among participants in this study based on ICD-10 [10] criteria using interview schedule of SCAN [12] was found to be approximately 0.22 (Table 1).

Types of Anxiety Disorders Among Participants

Table 2 shows the distribution of subtypes of anxiety disorders among the participants with 19 (6.2 %) out of a total of 65 (21.7 %) participants with anxiety disorders having anxiety disorder unspecified. Mixed anxiety-depressive disorder was found in 16 (5.3 %) respondents, while both agoraphobia and generalized anxiety disorder were found in 4 (1.4 %) participants each (Table 2).

Table 1 Prevalence of anxiety disorders among participants using SCAN

Anxiety disorders	Frequency (%)
Absent	235 (78.3)
Present	65 (21.7)
Total	300 (100)

Prevalence of anxiety disorders is 0.217

Table 2 Types of anxiety disorders among participants

Types of anxiety disorders	Frequency (%)
Agoraphobia	4 (1.4)
Social phobia	12 (4.0)
Specific phobia	5 (1.7)
Panic disorder	5 (1.7)
Generalized anxiety disorder	4 (1.4)
Mixed anxiety-depressive disorder	16 (5.3)
Anxiety disorders unspecified	19 (6.2)

Table 3 Correlates of anxiety disorders among participants

Anxiety disorders versus variables	Correlation coefficient (<i>r</i>)	<i>p</i> value
Gender	−0.065	0.260
Religion	−0.011	0.845
Younger age	−0.126*	0.039
Unemployment	0.168**	0.004
Lack of family support	0.212**	<0.001
Education	0.057	0.412
Married status	0.181**	0.002
Duration of HIV illness	0.053	0.329
Negative history of mental illness	−0.894*	0.021
Duration of HAART	−0.084	0.225
HIV test counseling	−0.077	0.188

** Correlation is significant at the level 0.01

* Correlation is significant at the level of 0.05

Socio-Demographic/Clinical Correlates of Anxiety Disorders Among Participants

Some of the factors that were assessed such as being unmarried ($P = 0.002$), lack of family support ($P < 0.001$), and unemployment status ($P = 0.004$) correlated positively with anxiety disorders among the study participants while younger age ($P = 0.039$) and absence of previous history of mental illness ($P = 0.021$) negatively correlated with the experience of anxiety disorders among them (Table 3).

Discussion

This is the first study on the profile of anxiety disorders among PLWHA based on ICD-10 [10] criteria using SCAN [13] from this region to the best of our knowledge. In this study, a prevalence of 21.7 % (approximately 0.22) for anxiety disorders was observed among PLWHA. Interestingly, the prevalence in this study is not only within the stated range of 2–40 % prevalence rate for anxiety disorders among PLWHA by American Psychiatry Association (APA) [11] but similar to the 20.3 % prevalence noted by Vitiello et al. [20] in their study among HIV/AIDS subjects in North America. However, this prevalence is lower compared to the 34 and 35.7 % prevalence reported by Adewuya et al. [21] among a Nigerian sample and Campos et al. [22] among Brazilian HIV positive subjects respectively. A possible explanation for the difference in the prevalence of anxiety disorders between our study and the ones cited above may be related to the diagnostic instrument used. For instance, in our study and that of Vitiello et al. [20], structured clinical interview schedules were used to make the diagnoses of anxiety disorders while Campos et al. [22] used a less structured screening instrument. Other common reasons proffered for differences in the observed prevalence rates of anxiety disorders among PLWHA in research include methodological issues like population of study, sampling, study design, time of assessment in relation to when HIV was diagnosed and the fact that some cultures do not have words to describe anxious state among others [11, 23]. Again, the prevalence of anxiety disorders among PLWHA in this study is higher than the 5.7 % life-time and 4.1 % 12-month prevalence rates for anxiety disorders reported among community sample in similar context by Gureje et al. [5]; thus, consistent with the fact that HIV/AIDS illness and its associated problems can potentially increase the risk for psychiatric morbidities among PLWHA.

The distribution of the subtypes of anxiety disorders as observed in this study indicates that about 6 and 5 in every 100 of the participants had anxiety disorders unspecified and mixed anxiety-depressive disorder respectively while social phobia was also found in 4 of every 100 of them. This is in line with other studies where the occurrence of similar types of anxiety disorders was documented among HIV positive subjects [21, 24, 25]. A plausible explanation for the observation of anxiety disorders unspecified (clinical syndrome where symptoms of two or more subtypes of anxiety disorders coexist) among PLWHA is linked to the etiological postulation that anxiety disorders in spite of the subtypes result from a common neurobiological process due to neurotropic nature of HIV [7]. Similarly, the finding of mixed anxiety-depressive disorder as one of the commonest categories of anxiety disorders among the study

participants validates the reported close association between anxiety and depression in physical illnesses. Indeed, it has been suggested that both anxiety and depressive disorders belong to a single spectrum of disorder which frequently co-occur in medical illnesses [26, 27]. Furthermore, anxiety disorders and depression as distinct psychopathology do commonly co-exist with HIV/AIDS individually as well. In this respect, existing data support depressive illnesses as the commonest co-morbid psychopathology in HIV/AIDS with up to one-half of PLWHA previously found with depressive psychopathology in studies done in Africa [28–32].

In this study, we observed that PLWHA with anxiety disorders are much more likely to lack family support, be unmarried and unemployed; while on the other hand, the absence of previous mental illness and younger age group seem protective against the experience of anxiety disorders. This is not surprising because loss of source of livelihood and poor social support are common psychosocial complications associated with HIV illness as a result of stigma, death of partner as well as changed roles among others [2, 11, 27, 33]; and in turn, significant source of stress that could constitute risk for anxiety disorders. In the same vein, the negative correlation between absence of previous mental illness and anxiety disorders indirectly portends the genetic and psychosocial vulnerability for anxiety disorders among PLWHA who have experienced mental disorders in the past as described in literature. Additionally, the psychosocial burden of living with two illnesses (mental disorder and HIV/AIDS) with significant stigma may not only be overwhelming but difficult to cope with for the sufferer, thus explanatory of the finding that PLWHA with no previous mental illness were less likely to experience pathological anxiety. In contrast to other research works on mental health of PLWHA, this study did not find a relationship between anxiety disorders and variables like gender, educational status, HIV illness duration, HAART and HIV test counseling [28, 33–36].

The generalization of the findings of this study to all PLWHA may be limited because of its clinical setting, participants' recruitment from one clinic and the lack of control for potential confounding correlates. Secondly, the correlates across subtypes of anxiety disorder may be different from the identified correlates in this study because of the collapse of the subtypes of anxiety disorders into one distinct category during analyses and discussion due to small sample in each subtype of anxiety disorders. Lastly, another limitation identified with this study is that higher order statistical analyses to determine the factors related to anxiety disorders without the interaction effect among variables is necessary. Therefore, further research with improvement on the identified limitations is warranted.

Conclusions

In conclusion, this study observed high prevalence of anxiety disorders among PLWHA which is many folds the prevalence rates reported among the general population. The diagnoses of anxiety disorders in PLWHA are more likely among those with lack of family support, loss of source of livelihood and less likely in PLWHA with no previous history of mental illness and younger age group. Hence, training of health care givers on the identification of mental health problems for prompt intervention and targeted mental health care services for PLWHA are recommended.

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