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PREVALENCE AND SPECIFIC PSYCHOSOCIAL FACTORS ASSOCIATED WITH SUBSTANCE USE AND PSYCHIATRIC MORBIDITY AMONG PATIENTS WITH HIV INFECTION AT USMANU DANFODIYO UNIVERSITY TEACHING HOSPITAL, SOKOTO STATE, NIGERIA

Mufutau A. Yunusa[1], Ayodele Obembe[1], Taofeek Ibrahim[2] & Chibueze H. Njoku[3]

[1]Department of Psychiatry
[2]Department of Community Medicine
[3]Department of Internal Medicine
Usmanu Danfodiyo University, Sokoto, Nigeria

ABSTRACT

In this study we set out to determine the prevalence of depression and anxiety disorders among HIV infected persons, prevalence of substance use among these patients, effect of active and inactive use of substance on drug compliance and clinic attendance, and psychosocial correlates of substance use among these patients. This cross sectional study was conducted among patients who had been diagnosed with HIV disease in a teaching hospital in Sokoto, Nigeria. A questionnaire relating to socio-demographic variables, substance use and psychiatric morbidity was administered to the patients. Information obtained were analyzed using SPSS version 11 with the test of significance set at $p<0.05$. Our study showed that more male patients used substance than the female patients. In addition, the presence of psychiatric morbidity and substance use had implications for clinic attendance and drug compliance. In the overall management of HIV infected patients, regular screening for substance use and psychiatric morbidity should be carried out and referrals made appropriately.

INTRODUCTION

There is no gainsaying that HIV infection has assumed a pandemic nature the world over. In addition to its contribution to morbidity and mortality, possible relationship of outcome of treatment with psychiatric morbidity and substance use presents another dimension to the disease. In one study, about 50% of patients with HIV infection had substance use problems; 18.5% were frequent users of alcohol while half of the patients had psychiatric morbidity (Bing et al., 2001). Earlier studies however reported a smaller percentage (Maj et al., 1994; Ferrando, Evans, Goggin, Sewell, Fishman, & Rabkin 1998). In yet other studies prevalence of 22% to 32% (Evans, Ferrando, Sewell, Goggin, Fishman, & Rabkin, 1998; Rabkin, Goetz, Remien, Williams, Todak, & Gorman, 1997) was reported which is 2 to 3 times higher than the prevalence of psychiatric disorders in the general community population (Blazer, Kessler, McGonagle, & Swartz, 1994). A lower prevalence of 9%

Corresponding author: Mufutau A. Yunusa, Department of Psychiatry, Usmanu Danfodiyo University, Sokoto, Nigeria. E-mail: yunusamufutau@yahoo.com

of major depression and 2% of anxiety disorder were reported among the patients after 6-months follow up (Perkins, Stern, Golden, Murphy, Naftolowitz, & Evans 1994.). It was observed that while depression had substantial impact on quality of life, anxiety has negative impact on social role and mental functioning. In addition, where substance use problem is present but not treated, there is non-adherence to antiretroviral drugs (Ironson et al., 2005). The overall consequence of substance use and psychiatric morbidity among patients with HIV infection is poor physical health, rapid progression to AIDS and death, particularly non AIDS related death (Ironson et al., 2005). In addition, Ironson et al. (2005) reported that psychosocial factors contribute significantly to the variance in disease progression.

Most studies on the prevalence of psychiatric morbidity and substance use are mainly from western society. In south western Nigeria, Adewuya et al. (2007) reported that the prevalence of depression was 59.1%. To our knowledge there is no study in the North western Nigeria which reports on the prevalence of psychiatric morbidity and substance use among such patients. This study is therefore aimed at investigating the prevalence of psychiatric morbidity and substance use among patients with HIV infection in Sokoto. In addition, it seeks to determine the risk factors for the prevalence.

In this study we sought to provide answers for the following questions: 1. What is the prevalence of psychiatric morbidity and substance use among patients with HIV infection in Sokoto? What variables are associated with psychiatric morbidity and substance use among the patients?

METHOD

Study design and location

This cross sectional study was carried out among patients who were diagnosed with HIV infection at the VCT (voluntary counseling and testing) centre of Usmanu Danfodiyo University Teaching Hospital (UDUTH), Sokoto, North-Western Nigeria. The study included 167 consecutive adult patients who were attending their routine clinic. Both symptomatic and non symptomatic patients were included. Ethical clearance was obtained from the hospital to carry out the study. In addition, the consent of individual patients was obtained. Exclusion criteria were refusal to participate in the study, patients with cognitive impairment or positive history of debilitating or overt psychiatric illness.

Variables relating to socio-demographic profile and substance use were collected by resident doctor in the department of community Health. The questionnaire to extract socio-demographic information and assess substance use was designed by one of the authors. Psychosocial factors that were assessed in relation to substance use and psychiatric morbidity include marital status and educational attainment. Educational attainment was defined as the maximum education acquired by the individual patients, which in Nigeria education system include Primary, secondary and the tertiary (University, Polytechnic, Technical school and so on). The CAGE questionnaire was used to assess the harmful use of or dependence on alcohol (Ewing, 1984). If any of the four questions was positive, it suggested harmful use of alcohol and if all the 4 questions were positive, it suggested a state of dependence.

Psychiatric morbidity was assessed using Hospital Anxiety and Depression Scale (HADS). This 14-item questionnaire was developed by Zigmond and Snaith (1983) to determine the presence of anxiety and depression among patients with medical conditions. Using Likert scoring scale, score range was 0-21 for each of the condition. Patients with score of 0-7 were considered as non- cases, those that scored 8-10 as borderline and 11 and above as definite cases for anxiety or depression. It has been validated and used in previous studies in Nigeria. Fatoye, Mosaku, Komolafe , & Adewuya (2006) used HADS in the study of prevalence of anxiety and depression in patients with epilepsy in a Nigerian community. Abiodun (1994) reported from a Nigerian community that the sensitivity

for the anxiety subscale ranged from 85.0% in the medical ward and surgical wards to 92.9% in the antenatal clinic while sensitivity for the depression sub- scale ranged from 89.5% in the community sample, while specificity for the depression subscale ranged from 86.6% in the medical and surgical wards to 91.1% in the ante natal and community sample. Misclassification rates ranged from 9.9% in the community sample to 13.2% in the medical and surgical wards. Relative operating characteristics (ROC) analyses showed the HADS and the GHQ 12 to be quite similar in ability to discriminate between cases and non cases.

RESULTS

A total of 167 consecutive adult patients who attended VCT clinic in the month of May 2010 were recruited for the study. All the patients successfully filled the socio-demographic section of the questionnaire while one hundred and sixty one of the questionnaires were valid for analysis for psychiatric morbidity. From Table 1, the age of the patients ranged between 20-66 years with a mean age of 37.21 ± 9.38. Female patients constituted 66% while majority of them (62%) were of Islamic faith and mainly of Hausa ethnic group. Over two-thirds of the patients were married while 16% were widowed.

About half of the patients used psychoactive substances such as tobacco (9; 5.7%), coffee (18; 11.3%), kola nuts (43; 27.0%) and solvents (2; 1.3%), and 14 (8.8%) reported harmful alcohol use. Also, the prevalence of depressive disorder was 7.6% while that of anxiety disorder was 8.8%. Table 2 showed that substance use was frequently found among patients who were divorced (62.5%) and who had attained tertiary education (63.9%).

From Table 3, anxiety and depression were found to be more frequent among the divorced; however the difference was not statistically significant. Table 4 shows that persons who did not have more than primary education appeared to suffer from anxiety and depression than those with higher levels of education.

Table 1. Demographic characteristics of the sample, n (%)

AGE, mean (SD)	34.9 (8.9)
Sex, n (%)	
Male	47 (28.1)
Female	117 (70.1)
Religion,n (%)	
Islam	106 (63.5)
Christianity	61 (36.5)
Marital status, n (%)	
Never Married	12 (7.2)
Married	119 (71.3)
Separated	2 (1.2)
Divorced	7 (4.2)
Widow	27 (16.2)
Education, n (%)	
None	45 (26.9)
Primary	16 (9.6)
Secondary	48 (28.7)
Post Secondary.	53 (31.7)
Ethnic Group, n (%)	
Hausa	86 (51.5)
Others	81 (48.5)

DISCUSSION

This study explored the prevalence of psychiatric morbidity and substance use among patients with HIV infection. In addition, the effect of psychosocial variables such as marital status and educational attainment on the prevalence of psychiatric morbidity and substance use were explored.

This study suggested that the prevalence of depressive and anxiety disorder is high. Factors associated with high prevalence of anxiety and depression across marital status and education attainment include being divorced and education attainment not higher than primary education. With regards to substance use, prevalence of substance use was high among individuals with tertiary education and those who were divorced.

Table 2: Relationship between marital status, education and substance use

	Yes (%)	No (%)	χ^2	DF	*p*-value
Marital Status					
Single	4 (36.4)	7 (63.6)			
Married	58 (51.3)	55 (48.7)			
Separated	0 (0)	1 (100)			
Divorced	5 (62.5)	3 (37.5)			
Widowed	12 (48)	13 (52.8)	2.440	4	0.656
Education					
No formal education	27 (62.8)	16 (37.2)			
Primary	10 (52.6)	9 (47.4)			
Secondary	14 (29.8)	33 (70.2)			
Tertiary	23 (63.9)	13 (36.1)			
Post graduate	5 (41.7)	7 (58.3)	13.650	4	0.008

Table 3: Relationship between marital status and psychiatric morbidity

Variables Anxiety and marital status						
	Normal (%)	Borderline (%)	Definite (%)	χ^2	DF	*p*-value
Not married	7 (63.6)	4 (36.4)	0 (-)			
Married	96 (84.2)	5 (4.4)	11 (9.6)			
Separated	1 (100)	0 (-)	0 (-)			
Divorced	7 (87.5)	0 (-)	1 (12.5)			
Widow	22 (88.0)	1 (4.0)	2 (8.0)	18.94	8	0.01
Depression and marital status						
Not married	7 (63.6)	3 (27.3)	1 (9.6)			
Married	95 (84.8)	7 (6.2)	9 (8.0)			
Separated	0 (-)	1 (100)	0 (-)			
Divorced	7 (87.5)	0 (-)	1(12.5)			
Widow	20 (80)	4 (16)	1 (4.0)	17.44	8	0.03

The prevalence of mood disorder in this study was consistent with previous work among HIV infected patients in the western society. Grant et al (2004) reported the prevalence of mood disorders in the US population to be 9.21% while that of anxiety disorder was 11.08%. However, other subsequent studies have reported a higher prevalence. For example, Chandra, Ravi, Desai and Subbakrishna (1998) reported the prevalence rate of 40% for depression and 36% for anxiety among patients who attended tertiary centre in India using HADS. Although our study was similar to their study with respect to pre-test and post-test counseling, their patients were recruited within 4-6 weeks of revelation of HIV status while in our study the period of revelation and this investigation varied between a few weeks to 10 years, hence our patients may have had enough time to adjust to

Table 4: Relationship between **e**ducation and psychiatric morbidity

	Anxiety and education					
	Normal (%)	Borderline (%)	Definite (%)	χ^2	DF	p-value
No formal education	37 (84.1)	3 (6.8)	3 (6.8)			
Primary	16 (84.2)	0 (-)	3 (15.8)			
secondary	42 (89.4)	2 (4.3)	2 (4.3)			
Tertiary	30 (83.3)	2 (5.6)	4 (11.1)			
Post graduate	8 (66.7)	3 (25)	1 (8.3)	11.33	8	0.18
	Depression and education					
No formal education	35 (81.4)	5 (11.6)	3 (7.0)			
Primary	13 (68.4)	3 (15.8)	3 (15.8)			
secondary	41 (87.2)	2 (4.3)	3 (6.4)			
Tertiary	29 (82.9)	4 (11.4)	2 (5.7)			
Post graduate	10 (83.3)	1 (8.3)	1 (8.3)	4.996	8	0.758

the illness when compared with their patients. Lower prevalence of substance use disorders of 9.35% in a similar cohort has been reported by Grant et al. (2004). However another study by Bing et al (2001) reported that the prevalence of substance use among HIV infected patients was 40%. This difference may not be unrelated to lower use of alcohol among the predominantly Muslim community where the study was carried out.

With regards to educational attainment and substance use, our findings were in contrast to those of Gfroerer, Greenblatt and Wright (1997) who reported that low educational attainment were associated with high prevalence of substance use. This difference may relate to methodological differences. While these studies reported mainly on illicit drugs, our subjects reported mainly on licit substances which are culturally acceptable. For example, kolanut is frequently used in most parts of Nigeria under several social circumstances including marriage, burial and baby christening among others. In addition, tertiary education is frequently associated with prolonged hours of academic activities and some of these substances are used to keep the students awake. Hence a student may subsequently form the habit of using the drug.

We acknowledge several limitations to this study. The present study describes psychiatric morbidity among a selected group of patients referred to a tertiary care centre. It is not possible to generalize these findings to the entire population of the catchment area of the study, especially those without access to counseling services. Also, the psychological instrument we used could not categorize the patients into ICD or DSM classification hence may be difficult to describe the severity of the psychiatric morbidity. The absence of control group was also a limitation as adequate comparison was not possible.

In conclusion, this study suggests the need for routine assessment of psychological distress by simple screening methods. Psychological distress appeared to be highly correlated with being single. Hence, adequate attention to the social circumstance of the patients is necessary.

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