PREVALENCE AND CORRELATES OF SUBSTANCE USE AMONG PERSONS WITH MENTAL DISORDERS IN A NIGERIAN PSYCHIATRIC HOSPITAL

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ABSTRACT

Few studies in Nigeria have investigated the relationship between psychiatric disorders and substance use. Yet, evidence worldwide suggests that substance related problems might be a major burden among persons with psychiatric disorders.

One hundred and five persons with mental illness (105) were evaluated for substance use with the Alcohol, Smoking, and Substance Involvement screening test (ASSIST). A questionnaire was used to elicit Sociodemographic variables. A high proportion had initiated tobacco (50.9%) and cannabis (34.5%) during adolescent. Factors associated with hazardous drug consumption were male sex ($p < 0.05$), younger age ($p < 0.05$) unemployment ($p < 0.01$) being unmarried ($p < 0.05$) and lower educational level ($p < 0.05$). Routine screening and brief interventions for substance use in psychiatric facilities should be critical components of mental health service delivery.

INTRODUCTION

Several studies have reported that psychoactive substance use is prevalent in Nigeria (Gureje et al., 2007; Adelekan, 1996; Obot 1990). According to the Nigeria Survey of Mental health and Wellbeing, some of the commonly used psychoactive substances include alcohol, tobacco and sedatives (Gureje et al., 2007). Substance use may co-occur with psychiatric disorders (Marshall and Farrell, 2007). This has been consistently found in major epidemiological studies in western countries revealing higher prevalence rates of substance use disorders among persons with mental illness compared with the general population (Kessler et al., 1994 ; Regier et al., 1990).

The pattern and prevalence rates of substance use among persons with mental disorders may vary widely (Wobrock et al., 2007; Haro et al., 2006). For instance, Koskinen et al., (2009) in a systematic review of 47 studies conducted in Western countries reported a range of 1-57% for alcohol use disorders in persons with Schizophrenia. In sub-Saharan Africa, higher rates of substance use have been reported among persons presenting for psychiatric evaluation in mental health facilities (Hauli et al., 2011; Weich and Pienaar, 2009; Ndetei et al., 2008). For instance a recent study in Tanzania revealed that the prevalence rate of substance use in psychiatric populations may be as high as 68.5% (Hauli et al., 2011). This was lower than the prevalence of 74%

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reported in a South African psychiatric facility (Weich and Pienaar, 2009). These widely varying rates have been attributed to differences in culture, geographical location and instruments used (Marshall & Farrell, 2004).

Previous studies have identified some correlates of substance use among persons with mental disorders (Hauli et al., 2011). In Tanzania, family history of substance use was associated with use of any psychoactive substance while secondary school level of education was significantly related to tobacco and cannabis use and formal employment with alcohol use. (Hauli et al., 2011). In a South African study, younger age and involuntary admissions were associated with substance use disorders (Weich and Pienaar, 2009). However, studies examining the correlates of hazardous substance use in psychiatric patients have been largely limited to western countries (Cruce et al., 2007). For example, a study in Norway found that female gender and smokers were significantly linked to drug related problems among persons with mental disorders (Cruce et al., 2007).

Previous studies of prevalence rates substance use among patients in Nigerian psychiatric facilities are few and limited to persons admitted into alcohol and drug treatment units (Adamson and Akindele, 1994 ; Adamson et al., 2010). Apart from persons with substance dependence requiring treatment and rehabilitation at psychiatric hospitals (Adelekan, 1996), persons with non-dependent substance use occurring with mental illness may also be present at such facilities (Cruce et al., 2007; Hauli et al., 2011). It is important to examine mentally ill persons with or without co-occurring substance dependence in view of the significant morbidity and mortality reported among non-dependent substance users (Dengerhadt et al., 2001). The use of alcohol and other drugs even among non-dependent individuals may significantly increase risk for violence, impair treatment compliance, and worsen outcome of mental illness (Koskinen et al., 2009).

In developing countries like Nigeria, the financial burden of providing care for the mentally ill is quite high (Amoo, 1998). This is compounded by limited access to mental health services due to inadequate facilities and qualified staff. Evaluating the prevalence of substance use among persons with mental disorders would provide relevant data and facilitate optimal use of the limited healthcare resources available in the country. In view of this, this study aimed to determine the prevalence and correlates of substance use among persons with mental disorders in a Nigerian Psychiatric Hospital. We hypothesized that gender, age, marital status, employment status and educational level would be associated with substance use among patients.

METHOD

Study design and sample selection

This was a cross-sectional study of persons with mental disorders presenting for evaluation and treatment at the Neuropsychiatric hospital, Aro between December, 2011 and February, 2012. The hospital has 10 wards including a drug abuse treatment facility. It is a government owned specialist tertiary institution located in south-western Nigeria. It provides in-patient, outpatient, and 24-hour emergency services to mentally ill patients. Most of the attending patients have major psychiatric disorders like schizophrenia, affective disorders and substance use disorders.

All patients aged 18-64 years attending outpatient clinic or on admission during the period of the study were eligible to participate in the study. These included patients with substance use disorders admitted in the hospital. Patients that were too ill or refused to give consent were excluded from the study. Patients attending the psychiatric hospital within the study period that met the inclusion criteria were consecutively recruited.

Instruments

A Sociodemographic questionnaire was used to elicit the socio-demographic characteristics of the respondents in this study. It included information on respondents' sex, age, occupation, employment status and duration of illness.

World Health Organization Alcohol, Smoking, Substance Involvement Screening Test (ASSIST)

This interview administered screening instrument was developed by World Health Organization (WHO) to detect psychoactive substance use and associated problems including intoxications and dependence in patients (Humeniuk et al., 2010). It was used to assess drug use in respondents' lifetime and past 3 months. Questions 2-7 were scored for each substance and the resultant substance involvement score computed. The scores were categorized into 3 levels of risk: Low risk (0-3), Moderate risk (4-26) and High risk (27+). Question 8 assessed injecting drug use which is an indicator of risk. The ASSIST has been validated in several countries (Group W.A.W, 2002). Respondents were divided into two groups for further analysis. Those with substance involvement score of 3 or below were categorized as non-hazardous substance users while those with scores greater than 3 were categorized as hazardous substance users.

The instrument was translated into Yoruba (the predominant language spoken in southwestern Nigeria) and modified to include local names of common psychoactive substances. Also, the interviewers had received prior training in administering the instrument before commencement of the study.

Ethical consideration

All out- and inpatients in treatment contact with the hospital were invited to participate in the study after the objectives were explained. Written informed consent was obtained from the participants. Ethical approval was granted by the Ethics review board of Neuropsychiatric hospital, Aro, Abeokuta.

Data analysis

Data was analysed with SPSS version 16 (SPSS, Chicago IL, USA). Differences between groups were examined for statistical significance using Chi square test for categorical variables with Yates' Correction or Fisher Exact Test (FET) implemented where appropriate while continuous variables like age were analysed with independent t-test. The level of significance (p) was set at < 0.05. Significant variables in the univariate analysis were entered into a logistic regression analysis to determine variables independently associated with hazardous substance use. Odds ratio (OR) with 95% Confidence Interval (CI) were then calculated for the independently associated variables.

RESULTS

Out of 111 patients approached, 105 agreed to participate in the study. The mean age of the subjects was 31.8 (SD =8.6) years. The age range was 19-56years.

Majority of the subjects were males (85.7%), never married (70.5%), employed (50.5%) and had less than secondary school education (61.9%) (Table 1).

The prevalence rates of substances used are as presented in Table 2. Eighty seven patients (82.9%) had used substances in their lifetime. The highest lifetime prevalence of psychoactive substance use was reported with alcohol (78.1%) followed by tobacco (59%), cannabis (53.3%), cocaine (6.7%), opioids (6.7%), sedatives (4.8%), solvents (3.8%) and amphetamine (2.9%). More than a third of alcohol (44.2%) and tobacco users (30.5%) and a fifth of cannabis users (18.2%) had initiated drug use during adolescence. Hazardous tobacco use (45.7%) in past 3 months was most common followed by alcohol (38.1%) and cannabis use (37.1%). Multiple substance use had occurred in 67 patients (63.8%).

Hazardous substance use was significantly associated with male sex ($p < 0.05$), being single ($p < 0.01$), unemployment ($p < 0.01$), younger age ($p < 0.05$), and lower level of education ($p < 0.05$). Hazardous drug users were five times more likely to be male (OR 5.0, 95% CI 1.32-18.9), four times more likely to be single (OR 4.36, 95% CI 1.70-11.01), unemployed (OR 4.0, 95% CI 1.78-9.01) and about three times more likely to have lower educational attainment (OR 2.79, 95% CI 1.2-6.31) (Table 3).

Table 1: Socio-demographic Characteristics of Patients

Variable	N	%
Age distribution		
16-25	26	24.8
26-35	51	48.6
36-45	18	17.1
≥ 46	10	9.5
Age (years)		
Mean ± SD =31.8 ±8.6		
Age Range 19-56		
Sex		
Male	90	85.7
Female	15	14.3
Marital Status		
Never Married	74	70.5
Married	18	17.1
Previously married *	13	12.4
Employment Status		
Employed	52	49.5
Unemployed	53	50.5
Educational Attainment		
Below Secondary	65	61.9
Secondary and above	40	38.9

*widowed, separated or divorced

DISCUSSION

This study found a lifetime prevalence of 82.9%. Similarly high prevalence rates have been reported in previous studies. About 68.5% was reported by Hauli et al. (2011) in Tanzania and 74.5% by Sinclair and Latifi (2008) in United Kingdom. The high rate of substance use among psychiatric patients agrees with the finding in literatures. Different hypotheses have been suggested in an attempt to explain the complex relationship between mental disorders and substance use (Marshall & Farrell, 2007). These include the self-medication hypothesis (persons with mental illness may use substances e.g nicotine to cope with psychotic experiences) (Kessler et al., 1996) and shared-vulnerability hypothesis (common factors predisposing to both substance disorders and mental illness) (Patel, 2007).

Alcohol was the most frequently used substance followed by Tobacco and Cannabis. This pattern was similarly reported by Hauli et al. (2011). The availability of inexpensive forms of these substances, inadequate enforcement of policies regulating their use and relative social acceptability make them widely available in Nigeria (Gureje et al., 2007; Obot, 1990). The relationship between cannabis and psychotic illnesses may explain its high prevalence in persons presenting for psychiatric

Table 2: Prevalence of substance use among the participants

Substance	Lifetime use n (%)	Adolescent onset n (%)	Hazardous drug use n (%)
Any Substance	87 (82.9%)	-	53 (50.5%)
Alcohol	82 (78.1)	46 (44.2)	40 (38.1)
Tobacco	62 (59)	32 (30.5)	48 (45.7)
Cannabis	56 (53.3)	19 (18.1)	39 (37.1)
Cocaine	7 (6.7)	0	5(4.8)
Opioids	7 (6.7)	1(1)	7 (6.7)
Sedatives	5 (4.8)	1(1)	0
Solvents	3 (3.8)	0	0
Amphetamine	3 (2.9)	0	2 (1.9)
Multiple substance use	67 (63.8%)		

Table 3: Factors associated with hazardous substance use

Variable	Non-Hazardous use n (%)	Hazardous use n (%)	χ2	df	P	OR (95% CI)
Sex						
Male	40 (44.4)	50 (55.6)	5.16	1	0.023*	5 (1.32-18.9)
Female	12 (80)	3 (20)				1
Employment status						
Unemployed	17 (32.7)	35(67.3)	10.4	1	0.001**	4.0 (1.78-9.01)
Employed	35 (66.0)	18 (34.0)				1
Marital status						
Never married	29 (39.7)	44 (60.3)	9.01	1	0.003**	4.36 (1.71-11.07)
Ever Married	23 (74.2)	8 (25.8)				1
Educational status						
Below Secondary	26 (40)	39 (60)	5.23	1	0.022*	2.79 (1.23-6.31)
Secondary and above	26 (65)	14 (35)				1
Continuous variables			S.E	t	df	p
Mean Age	33.7±9.5	29.9±7.2	1.65	2.26	102	0.026*

* $p < 0.05$ **$p < 0.01$

treatment at a specialist hospital (Williams et al. 1996; Thomas, 1993; Thornicroft, 1990). The relatively low prevalence rates reported for cocaine, opioids and amphetamines compared with other drugs is in keeping with the rates reported in previous local studies (Adamson et al., 2010; Hauli et al., 2011). Possible explanations include limited availability, accessibility and high cost of obtaining such psychoactive substances (Hauli et al., 2011).

In terms of hazardous drug use, tobacco was the most frequent. This is quite disturbing, considering the significant physical health risks associated with its use (Sani et al.,2006; Erhabor et al.,2002). Consistent with a previous epidemiological study (Gureje et al., 2007), about half of tobacco users started as adolescents. Prevention efforts targeting adolescents may further reduce the burden of tobacco use in low income countries. Smoking cessation programmes should be integrated into mental health services to reduce tobacco related mortality arising from the epidemic in low and middle income countries (WHO, 2005).

This study found male gender, unemployment, lower level of education and marital status (single) to be associated with hazardous substance. Gender differences in substance use may not be unrelated to Nigerian social and cultural norms for men and women (Obot, 2000). Male attributes like aggressiveness, sensation seeking and antisociality may contribute to problematic substance use (Nolen-Hoeksema , 2004).

This study had its limitations. Its hospital based and non-random nature limits generalizability. The sample size limited further analysis of factors influencing use and abuse of specific psychoactive substances. Notwithstanding these limitations, the study had its strengths including the use of an internationally validated instrument, focus on an understudied population and naturalistic design.

This study showed that substance use is prevalent among persons presenting at Nigerian psychiatric hospital. Further studies are required to evaluate risk factors for hazardous use of specific psychoactive substances

among persons with mental disorders. Routine screening and brief interventions for substance use in psychiatric facilities should be critical components of mental health service delivery.

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