

# HIV Risk Behavior in Persons with Severe Mental Disorders in a Psychiatric Hospital in Ogun, Nigeria

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## Abstract

**Background:** Few studies in Nigeria have investigated HIV risk behavior among persons with severe mental disorders. This study examined HIV risk behavior and associated factors among patients receiving treatment at a Nigerian psychiatric hospital. **Aim:** To determine the HIV risk behavior in persons with severe mental disorders in a psychiatric hospital. **Subjects and Methods:** This was a cross-sectional survey involving 102 persons with serious mental disorders receiving treatment at a major psychiatric facility in Southwestern Nigeria. HIV risk screening instrument was self-administered to assess HIV risk behavior. A questionnaire was used to elicit socio-demographic variables while alcohol use was assessed with the alcohol use disorder identification test. Differences in HIV risk levels were examined for statistical significance using Chi square test. **Results:** Forty eight percent of the respondents engaged in HIV risk behavior. This study revealed that 10.8% (11/102) gave a history of sexually transmitted disease, 5.9% (6/102) reported sex trading and no reports of intravenous drug use was obtained. A single risk factor was reported by 19.6% (20/102), 12.7% (13/102) reported two risk factors and 15.7% (16/102) reported three or more risk factors. HIV risk behavior was significantly related to alcohol use ( $P = 0.03$ ). **Conclusion:** Mental health services provide an important context for HIV/AIDS interventions in resource-constrained countries like Nigeria.

**Keywords:** Human immuno virus, Mental health, Psychiatric patients, Risk behavior, Severe mental disorders

## Introduction

Persons living with mental illness are particularly vulnerable to HIV/AIDS.<sup>[1]</sup> This is supported by the range of HIV infection rates of 3.1-22.9% among psychiatric patients in high-income countries.<sup>[2,3]</sup> One study in Zimbabwe reported a rate of 23.8%.<sup>[4]</sup> A number of factors make persons with mental illness vulnerable to HIV/AIDS. First, substance use which occurs frequently among psychiatric patients may also contribute to HIV/AIDS. This may be due to impaired decision making (especially during intoxication) or shared traits predicting substance use and high-risk behavior, e.g., sensation seeking and impulsivity.<sup>[5]</sup> Second, cognitive challenges and negative symptoms may limit ability to

comprehend and retain information about HIV/AIDS causation, treatment, and prognosis.<sup>[6]</sup> This may potentially influence behavior and attitude to HIV/AIDS. Third, psychopathologic and behavioral changes associated with mental disorders, e.g., disinhibition, increased libido, and impaired judgment may increase exposure to risky situations.<sup>[7]</sup> In addition to these factors, increased risk of sexual victimization may occur in the context of vagrancy. In low-income settings, this may be attributed to peculiar challenges of mental healthcare delivery. For instance, less than 10% of persons with severe mental illness (SMI) have access to mental health services in Nigeria.<sup>[8]</sup> In addition there is widespread stigmatization of the mentally ill poverty and lack of social security.<sup>[9-12]</sup>

Previous studies have identified high-risk lifestyles such as injection drug use, unprotected sexual intercourse, and having multiple sexual partners as possible vulnerability factors in spread of HIV/AIDS.<sup>[1,2,13,14]</sup> In high-income countries the prevalence of HIV risk behavior ranges from 4% to 48%.<sup>[6,15]</sup> Apart from methodological differences, cultural, and social norms may account for these varying rates. A number of factors have been associated with risky behavior among persons with

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mental disorders. In the United States, younger age, being single, ethnicity, female gender, and heavy drinking were reported to be associated with risky behavior.<sup>[16-18]</sup> In another study, male sex, being single, and using or abusing substances were identified as predictors of HIV risk behavior in India.<sup>[13]</sup>

Nigeria currently has about 3.5 million people living with HIV/AIDS (PLWHA) and had 388,000 new infections in 2011.<sup>[19]</sup> This expanding population of people living with HIV makes Nigeria the country with the second heaviest burden of HIV in Africa.<sup>[19]</sup> Many PLWHA have comorbid psychiatric disorders including depression, substance use, and post-traumatic stress disorder.<sup>[20-22]</sup> For instance, in Southwestern Nigeria, 59% of a group of HIV-positive individuals had a comorbid psychiatric disorder. This prevalence was significantly higher than that identified among similar individuals who were not affected by HIV.<sup>[21]</sup> These factors place a huge burden on the nation's economic and healthcare system. It is therefore important to examine the extent and pattern of risk behavior. A high prevalence of risky behavior in specific populations including students,<sup>[23,24]</sup> commercial sex workers,<sup>[25,26]</sup> and military personnel,<sup>[27,28]</sup> has been documented in Nigeria. However, there is a dearth of evidence on the psychosocial factors related to HIV risk behavior among the mentally ill in Nigeria. Research evaluating HIV risk behavior in this vulnerable population of patients is needed to guide the development of effective risk reduction programs.

This study aimed to determine the prevalence of HIV risk behavior and associated demographic and clinical variables among patients with mental disorders in a major psychiatric hospital in Southwestern Nigeria.

## Subjects and Methods

### Study information

This was a cross-sectional study of persons with mental disorders presenting for evaluation and treatment at the major psychiatric hospital in Ogun state, Nigeria. This is a Federal Government owned specialist institution. It has a total capacity of 526 beds for inpatient care. Even though it receives patients from all parts of the country, majority (89%) of its patients are from Southwestern Nigeria.<sup>[29]</sup> The hospital provides in-patient, outpatient, and 24-h emergency services to mentally ill patients and primary care services to neighboring communities. Most of the attending patients have major psychiatric disorders including schizophrenia and affective disorders.

### Instruments

#### Socio-demographic questionnaire

A questionnaire was used to elicit the socio-demographic characteristics of the respondents. It included information on respondents sex, age, marital status, occupation, highest educational level, and employment status.

### HIV risk screening instrument (HSI)

This is a 10-item instrument that evaluates sexual-risk information including number of sexual partners, number of partner-risk characteristics (e.g., injection drug use, multiple partners), and unprotected vaginal intercourse in the past 10 years.<sup>[30]</sup> The HSI has been used in health care settings to identify individuals at risk for HIV and to initiate HIV testing, early care, and risk-reduction counseling, necessary goals for effective HIV prevention efforts. It has good internal consistency of 0.73.<sup>[30]</sup> A score of zero reflects low-risk, whereas a score of one or more reflects possible risk for HIV infection.<sup>[30]</sup>

### Alcohol use disorders identification test (AUDIT-C)

The AUDIT-C is an abbreviated version of the AUDIT consisting of the first three items of AUDIT. It has been found to have good psychometric properties including sensitivity, predictive validity compared with the 10-item questionnaire.<sup>[31]</sup>

Ethical approval was obtained from the Research and Ethical Committee of the Neuropsychiatric Hospital, Abeokuta. Written informed consent was obtained from the subjects after full explanation of the study. To ensure confidentiality, information was obtained during interviews in the consulting rooms. Questionnaires were serially numbered to ensure anonymity.

Patients aged 18 years and above attending the psychiatric hospital within the study period that met the inclusion criteria were consecutively recruited till the required sample size was met. Subjects that were acutely ill or did not understand English or Yoruba were excluded from the interview. The instruments were translated to Yoruba using the back translation method. Both instruments have been used in psychiatric populations in previous studies.<sup>[13]</sup>

### Data analysis

The Statistical Package for the Social Sciences version 16.0 (Chicago IL, USA) was used for data analysis. Difference between HIV risk levels were examined for statistical significance using Chi-square test for categorical variables with Yates' Correction implemented where appropriate. The level of significance (*P*) was set at < 0.05.

## Results

Out of 105 patients approached, 102 (97.1%) participated in the study. Seventy four (72.5%) were male and 28 (27.5%) were female. The mean (SD) age was 32.9 (8.9) years. About 90.2% (92/102) had Schizophrenia and related psychosis while 9.8% (10/102) had affective disorders. Majority of the respondents were never married (60.8%) and had attained secondary level education (86.3%). Eighty two respondents comprising 79.4% of the respondents had a lifetime history of sexual activity. Majority of the sexually active respondents

were aged 26-35 years (49.4%), never married (51.9%), and less educated (58%) [Table 1]. Alcohol use in the past year was reported by 40.4% (38/94) of the respondents. Among sexually-active respondents, about 80.8% (63/78) engaged in inconsistent condom use.

### HIV risk behavior among respondents

Forty eight percent of the respondents engaged in HIV risk behavior. Thirty nine (38.2%) reported two or more sexual partners, 10.8% (11/102) reported a sexually transmitted disease (STD), 5.9% (6/102) reported sex trading, and no reports of intravenous drug use were made [Table 2]. 19.6% (20/102) reported a single risk factor, 12.7% (13/102) had two risk factors, and 15.7% (16/102) had three or more risk factors [Table 3]. From Table 4, gender ( $P = 0.84$ ), age ( $P = 0.65$ ), marital status ( $P = 0.45$ ), and educational attainment ( $P = 0.90$ ) were not associated with HIV risk behavior. However, alcohol use ( $P = 0.03$ ) was significantly related to HIV risk behavior [Table 4].

**Table 1: Socio-demographic characteristics of persons with mental disorders**

Variable	N n (%)	Sexually active subjects n (%)
Age distribution		
16-25	20 (19.6)	11 (36.6)
26-35	49 (48)	40 (49.4)
36-45	33 (32.4)	30 (37)
Sex		
Male	74 (72.5)	54 (66.7)
Female	28 (27.5)	27 (33.3)
Marital status		
Never married	62 (60.8)	42 (51.9)
Married*	40 (39.2)	39 (48.1)
Educational attainment		
Below secondary	41 (40.2)	47 (58)
Secondary and above	61 (59.8)	34 (42)

\*Including widowed, separated, or divorced

**Table 2: Risky behavior among respondents**

Variable	Male n (%)	Female n (%)	Total N (% of total)
Has had two or more sexual partners	30 (73.9)	9 (26.1)	39 (38.2)
Has had anal sex	7 (63.6)	4 (36.4)	11 (10.8)
Inconsistent condom use in anal sex	3 (50)	3 (50)	6 (5.9)
Has had an STD*	8 (72.7)	3 (27.3)	11 (10.8)
Had sex with a partner who had STD	14 (100)	0	14 (13.7)
Had sex with a male partner who had sex with other men	1 (100)	0	1 (0.9)
Used Intravenous drugs	-	-	-
Had sex with IDU*	1 (20)	4 (80)	5 (4.9)
Had sex with a prostitute	7 (70)	3 (30)	10 (9.8)
Traded sex for money or sex	4 (66.7)	2 (33.3)	6 (5.9)

\*IDU: Intravenous drug user; STD: Sexually transmitted disease

## Discussion

This study showed that HIV risk behavior is quite high among patients with major mental disorders attending a psychiatric hospital in Southwestern Nigeria. This agrees with previous studies in Nigeria and developed countries like United States, India, and Brazil.<sup>[13,14,32,33]</sup> Unlike a previous local study, a report of a wider range of HIV risk behavior including anal sex and having male partners who have sex with men was found in this population.<sup>[14]</sup> Though lower than rates of risky sexual behavior reported among military personnel, commercial sex workers, and injection drug users in Nigeria, the high prevalence of risky behavior in this group of persons with SMI is quite disturbing considering the incidence of HIV/AIDS in Nigeria.<sup>[19,25,27,34]</sup>

HIV risk behavior was found to be associated with alcohol use in this study. This is consistent with the findings in high-income countries<sup>[33,35]</sup> and has been attributed to the effects of alcohol including impaired judgment,<sup>[36]</sup> increased vulnerability to sexual assault<sup>[37]</sup>, and reinforcement according to alcohol myopia theory.<sup>[38]</sup> In a large scale epidemiological study of the prevalence of substance use in Nigeria, lifetime and 12-month prevalence rates of 56% and 14%, respectively, were reported for alcohol use. High rates of alcohol use were similarly reported among PLWHAs in Northern Nigeria.<sup>[39,40]</sup> Further

**Table 3: HIV risk factors among persons with serious mental illness**

Variable	N	%
No risk	53	52
One risk	20	19.6
Two risk factors	13	12.7
Three or more risk factors	16	15.7

HIV: Human immuno virus

**Table 4: Psychosocial factors and human immuno virus risk behavior**

Variable	Low HIV risk behavior	High HIV risk behavior	$\chi^2$	df	P value
Sex					
Male	38 (51.4)	36 (48.6)	0.04	1	0.8
Female	15 (53.6)	13 (46.4)			
Age					
Younger	25 (54.3)	21 (45.7)	0.191	1	0.6
Older	28 (50)	28 (50)			
Marital status					
Never married	34 (54.8)	28 (45.2)	0.525	1	0.5
Ever married	19 (47.5)	21 (52.5)			
Educational status					
Below secondary	32 (52.5)	29 (47.5)	0.02	1	0.9
Secondary and above	21 (51.2)	30 (48.8)			
Alcohol use					
Yes	34 (60.7)	22 (39.3)	4.09	1	0.4*
No	15 (39.5)	23 (60.5)			

\* $P < 0.05$ . df: Degree of freedom, HIV: Human immuno virus

research is required to determine if the relationship between alcohol use and HIV risk behaviors is state or trait dependent.<sup>[41]</sup>

This study had its limitations. First, persons classified as being at high risk for HIV may not necessarily be at risk in view of the difficulties associated with determining magnitude of actual risk involved with specific HIV risk factors.<sup>[30]</sup> Second, the cross-sectional nature limits inferences on direction of causality. Third, the use of a convenience sample raises the possibility of selection bias and limit generalizability. Nevertheless, this is one of the few studies examining the correlates of HIV risk behavior among Nigerians with mental disorders. The use of standardized instruments makes its findings comparable with those of other countries. Fourth, there may have been bias associated with use of non-validated scales to assess HIV risk and alcohol use.

This study showed that there is high prevalence of HIV risk behavior among mentally ill patients in a Nigerian hospital despite ongoing HIV prevention efforts in the country. In order to reduce the impact of HIV/AIDS on the country, evidence based prevention programs tailored to the needs of the population are required. For instance, extant programs targeting voluntary counseling and testing seekers have been reported to be effective.<sup>[42]</sup> Mental health care settings may provide appropriate opportunities for such HIV risk reduction interventions.<sup>[43]</sup> Improved knowledge may increase their ability to accurately assess and respond to risky situations. Also, it may reduce stigma and improve access to treatment.<sup>[14]</sup> This is especially relevant to persons with serious mental illness who are already burdened with the stigma of mental illness and its complications.<sup>[7]</sup>

There is a need to evaluate current HIV-prevention initiatives within mental health settings in order to make them more effective in reducing the burden of HIV/AIDS in the country. If possible, interventional efforts including psychoeducation, voluntary, counseling, and testing should be built into the process of evaluating and managing persons with SMI presenting at primary, secondary, and tertiary healthcare levels to address HIV risky behavior. Collaborations between HIV and mental health service providers should be strengthened to facilitate early intervention for people with serious mental illness and HIV/AIDS.

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