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## A Comparative Study of HIV/AIDS: The Knowledge, Attitudes, and Risk Behaviors of Schizophrenic and Diabetic Patients in Regard to HIV/AIDS in Nigeria

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### Abstract

**Context:** Studies on knowledge and risk behaviors related to HIV/AIDS reported from developed countries have shown that people with psychiatric disorders constitute a special risk group. In Nigeria, although similar studies have been conducted on various population groups, there has, so far, been no reported study on people suffering from psychiatric disorders.

**Objective:** The present study set out to compare knowledge, attitudes, and risk behaviors related to HIV/AIDS among schizophrenic patients and diabetic patients.

**Methods:** Ninety-eight consecutive schizophrenic patients attending the outpatient clinics of a psychiatric hospital over a period of 8 weeks completed an interviewer's administered questionnaire. The interview covered demographics, risk behaviors, knowledge related to HIV/AIDS, and patients' attitudes toward people infected with HIV/AIDS. Their responses were compared with those of 56 diabetic patients who were similarly interviewed in a teaching hospital.

**Results:** Compared with the diabetic patients, the schizophrenic patients were significantly less sexually active in the previous 12 months ( $P < .05$ ). They had more misconceptions about HIV/AIDS and were less tolerant towards people living with HIV/AIDS compared with the diabetic patients. They were also more likely to engage in high-risk behaviors.

**Conclusion:** Mental health providers rarely educate psychiatric patients about HIV/AIDS and should be more involved in doing so. Despite being less sexually active, patients with schizophrenia engaged in risk behaviors as did the diabetic patients.

### Introduction

Since the first clinical case of acquired immune deficiency syndrome (AIDS) was reported more than 2 decades ago, the syndrome has acquired the potential for being the most devastating disease that humankind has ever faced, with about 40.3 million people living with the virus and 3.1 million AIDS deaths in 2005.[1] The spread of HIV

infection has engaged the attention of researchers all over the world. Apart from studies directed at studying the characteristics of the virus to facilitate discovery of potent vaccines, research efforts have also been geared towards containing the spread of the infection. Efforts were also directed towards the assessment of the knowledge and attitude of individuals and groups of people towards

those with HIV infection.[2] This is particularly important in developing countries, especially sub-Saharan Africa, which carries the greatest burden of HIV infection and where large-scale ignorance about the cause and prevention of the disease prevails.

Several studies have reported the knowledge, attitude, and behavior of identified groups at high risk for HIV infection.[3,4] Little attention, however, has been paid to psychiatric patients as a vulnerable and disadvantaged group with a high risk for HIV infection.[5,6] Recent literature has demonstrated that psychiatric patients, particularly those with a diagnosis of schizophrenia, may be at high risk for HIV infection.[7] HIV risk behaviors, such as sharing of needles by drug addicts, unprotected sex, and others, have also been reported in a substantial proportion of mentally ill patients, particularly patients with bipolar disorders and schizophrenia.[6,8,9]

Although a considerable body of research on HIV/AIDS especially on knowledge, attitude, and risk behaviors in various groups has been reported in Nigeria,[4,10,11] reports of studies on knowledge, attitudes, and risk behaviors, in particular, are rather scanty on HIV/AIDS among psychiatric patients in the country.

### Study Objectives

The present study was designed to compare the HIV/AIDS knowledge, attitudes, and risk behaviors of schizophrenic patients with those of diabetic patients.

Specific objectives:

- To determine the knowledge, attitudes, and risk behaviors of schizophrenic patients in regard to HIV/AIDS;
- To determine the knowledge, attitudes, and risk behaviors of diabetic patients in regard to HIV/AIDS; and
- To compare these 2 groups on these parameters and make conclusions as to how best to improve the knowledge, attitude, and risk behaviors of schizophrenic patients in regard to HIV/AIDS.

## Methods

### Subjects

Ninety-eight consecutive and consenting patients aged 1950 years who reported at the outpatient clinic of Psychiatric Hospital, Yaba, and who satisfied the International Classification of Disease (ICD-10) diagnostic criteria for schizophrenia were recruited into the study over a period of 8 weeks. The patients had become clinically stable following treatment for not less than 1 year. Those who were

unable to provide meaningful responses because of their psychosis were excluded.

Over the same period of time, a total of 69 consecutive and consenting attendees of the outpatient endocrinology clinic of the Lagos State University Teaching Hospital, Ikeja, suffering from diabetes mellitus were initially recruited. The diabetic patients were screened with General Health Questionnaire version 28 (GHQ-28) for the assessment of psychiatric morbidity. GHQ has been previously used as a screening instrument for psychiatric morbidity and validated in a number of studies in Nigeria.[12,13] Fifty-six of the subjects whose scores indicated no psychiatric morbidity were included in the study. This group only included those who were within the age range of 1950 years. The diabetic patients were chosen as the comparison group because diabetes mellitus, like schizophrenia, runs a chronic course and requires specialist attention.

### Assessment

A modified version of the instrument used for the National HIV/AIDS and Reproductive Health Survey (NARHS) in Nigeria[14] was used to assess the subjects' knowledge of HIV/AIDS and their attitude and behavior toward persons with the disease. The instrument included sections on background characteristics, sexual behaviors, and condom use.

### Data Analyses

The data were analyzed using the Statistical Package for Social Sciences (SPSS), version 10.[15] All statistical tests were at 5% probability level ( $P < .05$ ).

## Results

### Sociodemographic Characteristics of Subjects

The age range for both groups of patients was 1950 years (Table 1). The mean age of the schizophrenic patients was  $34.46 \pm 7.70$  years, while the mean age of the diabetic patients was  $39.59 \pm 7.69$  years. Fifty-five (56.1%) of the schizophrenic patients were males compared with 30 (53.6%) of the diabetic patients ( $P = .759$ ). Forty-two (75%) of the diabetic patients were married compared with 17 (17.3%) of the schizophrenic patients ( $P < .001$ ). Only 20 (20.4%) of the schizophrenic patients were able to attain tertiary education (university education) compared with 17 (30.4%) of the diabetic patients ( $P = .164$ ). Compared with the diabetic patients (12.5%), more schizophrenic patients (46.9%) were unemployed ( $P < .001$ ). More schizophrenic patients (20.4%) were artisans compared with the diabetic subjects (5.4%) ( $P = .012$ ).

### Psychoactive Substance Use by Subjects

Psychoactive substance use by the patients of the 2 groups was generally low. However, more of the schizophrenic

**Table 1: Demographic Characteristics of Subjects**

Variables	Schizophrenia n (%)	Diabetes n (%)	Statistical Significance (P Value)
<b>Sex</b>			
Male	55 (56.1)	30 (53.6)	<i>P</i> = .759
Female	43 (43.9)	26 (46.4)	
<b>Age (years)</b>			
< 21	1 (1.0)	1 (1.8)	--
21 30	37 (37.8)	7 (12.5)	
31 40	36 (36.7)	21 (37.5)	
41 50	25 (24.5)	27 (48.2)	
<b>Employment</b>			
Unemployed	46 (46.9)	7 (12.5)	<i>P</i> < .001
Employed	52 (53.1)	49 (87.5)	
<b>Marital status</b>			
Married	17 (17.3)	44 (78.6)	<i>P</i> < .001
Not married	81 (82.7)	12 (21.4)	
<b>Level of education</b>			
Nil	4 (4.1)	4 (7.1)	--
Primary	22 (22.4)	15 (26.8)	
Secondary	52 (53.1)	20 (35.7)	
Tertiary	20 (20.4)	17 (30.4)	
<b>Religion</b>			
Christianity	72 (73.5)	50 (89.3)	--
Islam	24 (26.5)	5 (8.9)	
Other	--	1 (1.8)	

**Table 2: Sexual Behavior of Subjects**

Sexual Behavior of Subjects	Schizophrenia n (%)	Diabetes n (%)	Statistical Significance (P Value)
Have had sexual intercourse	82 (83.7)	52 (92.9)	<i>P</i> = .103
Sexually active in the last 12 months	35 (42.7)	41 (78.8)	<i>P</i> < .001
Had used condom	41 (50.0)	30 (57.7)	<i>P</i> = .186
Had sex without condom with nonmarital sex partner in the last 12 months	12 (34.3)	8 (19.5)	<i>P</i> = .145
Sexual intercourse with same sex	0	0	--

patients (8.2%) compared with none (0%) of the diabetic patients had used cannabis ( $P = .030$ ). On the other hand, the diabetic patients used alcohol more than the schizophrenic patients (diabetes 23.2%; schizophrenia 10.2%) in the 4 weeks (current use) prior to the interview ( $P = .029$ ). The level of usage was not considered in the questionnaire. None of the patients in the 2 groups had ever used cocaine or heroin. None of the patients was injecting psychoactive substance.

### Sexual Behavior of Subjects

The majority of the patients in the 2 groups had had sexual intercourse (schizophrenia 83.7%; diabetes 92.9%) (Table 2). Significantly more of the diabetic patients (78.8%) had had sexual intercourse in the previous 12 months before the study compared with the schizophrenic patients (42.7%) ( $P < .001$ ).

Despite the generally high level of awareness about the use of condoms in the 2 groups (schizophrenia 89%; diabetes 92.9%), only 50% of the schizophrenic and 57.7% of the diabetic patients had ever used condoms. During the previous 12 months, proportionally more of the sexually active schizophrenic patients (34.3%) did not use condoms during sexual intercourse with sexual partners to whom they were not married. This compares with 19.5% of diabetic patients (Table 2). None of the male patients reported having sex with men.

### Subjects' Knowledge of HIV/AIDS

Almost all of the patients in the 2 groups (schizophrenia 95.9%; diabetes 100%) were aware of the existence of HIV/AIDS. Their main source of information was electronic media (radio and television). The proportion of

healthcare providers/institutions as a source of information was small in the 2 groups of patients (schizophrenia 1.1%; diabetes 1.8%).

The knowledge of the 2 groups of subjects varied for different subject areas (Table 3). Sixty-four (65.3%) of the schizophrenic patients and 40 (71.4%) of the diabetic patients knew that people could protect themselves from HIV infection by using condoms correctly every time they have sex ( $P = .435$ ). The 2 groups showed high knowledge about the protective effect of having 1 uninfected faithful partner (schizophrenia 79.6%; diabetes 85.7%) ( $P = .343$ ), abstaining from sex (schizophrenia 83.7%; diabetes 85.7%) ( $P = .737$ ) and risk of intravenous transmission from using unsterilized or previously used needles and sharp objects (schizophrenia 82.7%; diabetes 96.4%) ( $P = .012$ ). Compared with the schizophrenic patients, a higher proportion of diabetic patients knew that HIV could be transmitted through breastfeeding (schizophrenia 53.1%; diabetes 64.3%) ( $P = .176$ ) and from a mother to an unborn baby (schizophrenia 61.2%; diabetes 76.8%) ( $P = .048$ ).

### Misconceptions About HIV/AIDS

The percentage of misconceptions about HIV/AIDS was higher among the schizophrenic patients compared with the diabetic patients. Twenty-one (21.4%) of the schizophrenic and 6 (10.7%) of the diabetic patients believed that one could become infected with HIV by sharing a meal with an infected person ( $P = .093$ ). Twenty-three (23.5%) of the schizophrenic and 9 (16.1%) of the diabetic patients believed that people could be infected with HIV through mosquito bites ( $P = .276$ ).

**Table 3: Knowledge of Subjects About HIV/AIDS**

Area of Knowledge	Schizophrenia n (%)	Diabetes n (%)	Statistical Significance (P Value)
Correct use of condom is protective	64 (65.3)	40 (71.4)	$P = .435$
Can get HIV from mosquito bites	23 (23.5)	9 (16.1)	$P = .276$
Having one uninfected faithful partner is safe	78 (79.6)	48 (85.7)	$P = .343$
Abstaining from sex is protective	82 (83.7)	48 (85.7)	$P = .737$
Can get HIV by sharing meals	21 (21.4)	6 (10.7)	$P = .093$
Can get HIV through sharing sharp objects	81 (82.7)	54 (96.4)	$P = .012$
Healthy-looking person can have HIV	68 (69.4)	45 (80.4)	$P = .138$
Mother can transmit HIV to unborn baby	60 (61.2)	43 (76.8)	$P = .048$
Can get HIV through breastfeeding	52 (53.1)	36 (64.3)	$P = .176$

**Table 4: Attitude of Subjects Towards Person With HIV/AIDS**

Area of Belief	Schizophrenia n (%)	Diabetes n (%)	Statistical Significance (P Value)
Can eat with person with HIV/AIDS	22 (22.4)	24 (42.9)	$P = .008$
Can care for male relative with HIV/AIDS	39 (39.8)	38 (67.9)	$P = .001$
HIV-infected student should continue schooling	49 (50.0)	36 (64.3)	$P = .086$
Can care for female relative with HIV/AIDS	39 (39.8)	37 (66.1)	$P = .002$
HIV-infected teacher should continue teaching	45 (45.9)	36 (64.3)	$P = .028$
Can buy food from a shopkeeper with HIV	9 (9.2)	33 (58.9)	$P < .001$
Secrecy about an infected family member	64 (65.3)	38 (67.9)	$P = .747$

#### **Attitude of Subjects Towards People Infected With HIV/AIDS**

The attitude of the 2 groups of patients differed considerably towards people infected with HIV/AIDS (Table 4). Compared with diabetic patients, a higher proportion of schizophrenic patients would not eat with HIV/AIDS-infected persons (schizophrenia 22.4%; diabetes 42.9%) ( $P = .008$ ) or tolerate the care of infected relatives in their households (schizophrenia 39.8%; diabetes 67.9%) ( $P = .001$ ). However, the 2 groups were similar in terms of wanting the diagnosis to remain secret. should a family member become infected with HIV (schizophrenia 65.3%; diabetes 67.9%) ( $P = .747$ ).

#### **Discussion**

This study demonstrated that a group of schizophrenic patients were less knowledgeable about HIV/AIDS than a group of diabetic patients. However, awareness about the existence of HIV/AIDS by both the schizophrenic and diabetic subjects was generally good. This finding is in line with the general trend in other parts of the world.[10,16] A similarly high level of awareness has also been reported in a national HIV/AIDS and reproductive health survey in Nigeria.[14] It is noteworthy that both groups of subjects reported contact with HIV/AIDS prevention programs, mostly through radio and television. The important role of mass media, especially radio and television, in the dissemination of information to the citizenry of Nigeria has been reported previously.[11,14] The present study further strengthened the evidence that the mass media is making the desired impact with regard to information about HIV/AIDS in Nigeria.

The impact of healthcare providers/institutions in the dissemination of information on HIV/AIDS issues was rather poor, however. This finding, which was consistent with a report by Ayankogbe and colleagues,[11] is somewhat disturbing as it leaves much to be desired from healthcare

providers/institutions as a veritable source of information as far as HIV/AIDS prevention is concerned. This could mean that healthcare providers outside of HIV/AIDS clinics do not routinely counsel patients about HIV/AIDS. There is, therefore, the need for healthcare providers, especially of mental health institutions, to be actively involved in educating their patients about HIV/AIDS. Despite the good level of awareness about the existence of HIV/AIDS by the 2 groups, the schizophrenic patients were less knowledgeable on issues concerning HIV/AIDS. This could be responsible for their attitude towards people living with HIV/AIDS.

This study also showed that the schizophrenic patients had more misconceptions about the route of transmission of HIV infection than the comparator group. These misconceptions may be responsible for the attitude of the schizophrenic subjects towards people living with HIV/AIDS; they were less tolerant and less accommodating towards people living with HIV/AIDS than the diabetic patients. Stigma and discrimination shown to these people can worsen the spread and impact of the HIV/AIDS epidemic because people will be less inclined to go for screening voluntarily or acknowledging their HIV status. It was not surprising, therefore, that the majority of the patients said that they would maintain secrecy should any of their family members become HIV-positive.

The schizophrenic patients were reported to be less sexually active in the previous 12 months than were the diabetic patients. The finding that most of the schizophrenic patients in this study were not married could be responsible for this. Studies have shown that apart from the difficulty in establishing psychosocial relationships due to stigma attached to schizophrenic illness,[17] the side effects of their antipsychotic medications can affect their sexual functions.[18]

Among the sexual risk behaviors is the neglect of protection offered with the use of condoms, seen in both groups. However, the schizophrenic patients were more likely to engage in sexual intercourse without condoms with sexual partners to whom they were not married (although this difference was not statistically significant). This risky behavior could facilitate infection with HIV and other sexually transmitted diseases. Studies on condom use by the mentally ill in other countries were inconsistent about this. McKinnon and coworkers[19] in New York reported that condoms were not used in 58.1% of their cohort of mentally ill, while Grassil and colleagues[8] in Italy found that 41% of their schizophrenic patients did not use condoms.

It is worth mentioning that other risk groups, such as men who have sex with men and those who use intravenous psychoactive substances, reported in psychiatric patients in the developed countries, were uncommon in this study.

This study has shown that mental health providers rarely educate psychiatric patients about HIV/AIDS and should be more involved in doing so. Nonetheless, media campaigns directed to the general public appear to be reaching people with schizophrenia as well. Although patients with schizophrenia were significantly less sexually active than the diabetic patients, they nonetheless had the same level of sexual risk behavior. This can be seen by the fact that they had somewhat higher rates of having sex without a condom with a nonmarital sex partner in the last 12 months compared with the diabetic patients, although this difference did not reach statistical significance. These findings are consistent with other studies in the United States and elsewhere which showed that although people with severe mental illness were less sexually active than the general population,[5,8,20] the sexual activity that they were engaged in puts them at the same or greater level of risk for HIV as the general population.

In conclusion, this study has shown that special risk groups, such as persons with schizophrenia, need targeted enlightenment and counseling by public health workers while waiting to be attended to at outpatient clinics.

#### Authors and Disclosures

Dr. Olawale O. Ogunsemi, MB, ChB, FMCPsych, has disclosed no relevant financial relationships.

Dr. Rahmaan A. Lawal, MBBS, FMCPsych, MPH, has disclosed no relevant financial relationships.

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