Demographic Characteristics and Sexual Behaviours of Antiretroviral treatment (ART) Clinic attendees in a Secondary Health Facility in Southern Nigeria: a Cross-Sectional study.

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SUMMARY

Introduction: Heterosexual transmission via unprotected sexual intercourse with a partner who is HIV positive still remains the primary mode of acquiring HIV in Nigeria as in other sub-Saharan countries. This study assessed the demographic characteristics and sexual behaviours of ART clinic attendees in a secondary health facility in southern Nigeria.

Methodology: This descriptive cross-sectional survey was conducted among HIV-positive men and women who were attending ART clinic at the Central Hospital, Agbor, Delta State, Nigeria from June to August, 2009. A structured and pre-tested questionnaire was the tool for data collection. Statistical analysis was done using SPSS version 16 statistical software.

Results: A total of 406 respondents with a mean age of 37.4 ± 9.5 years participated in the study. They were made of 301 (74.1%) females and 105 (25.9%) males. Majority (40.6%) were in the age group 25 – 34 years. Most (88.4%) attendees were on HAART. Three hundred and sixty-five (89.9%) were sexually active. Among these, 273 (74.8%) had one partner while 92 (25.2%) had more than one partner. Condom was used always by only 97 (26.6%), sometimes used by 118 (32.3%) while 150 (41.1%) did not use condom. Age, gender, level of education, marital status and religion were significantly associated with the use of condom. Logistic regression analysis showed that only gender was identified as a significant predictor of condom use.

Conclusion: Risky sexual behaviours i.e. unprotected sexual intercourse was high among the ART clinic attendees. Female respondents were less likely to use condom during sexual intercourse. Efforts should be made by health care workers to educate ART clinic attendees especially females on the implications of risky sexual behaviours.

Key Words: Sexual behaviours, ART clinic attendees, General Hospital, Agbor, Southern Nigeria.

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Introduction

Heterosexual transmission via unprotected sexual intercourse with a partner who is HIV positive still remains the primary mode of acquiring HIV in Nigeria as in other sub-Saharan countries [1,2]. In 2011, the prevalence of HIV infection among adults in Nigeria was estimated to be 4.1% and this translates to 3.1 million people living with the virus [2]. Although this represents a slight decline in the prevalence over previous years, Nigeria still ranks second in the world and a major contributor to the global burden of HIV/AIDS. Also, Nigeria has the largest number of people infected with the HIV virus in Africa and 58.3% of these infected people are females [3].

Approximately 80 – 95% of HIV infections in Nigeria are as a result of heterosexual behaviour. Low levels of condom use have been identified as one of the factors contributing to this [1]. The National Demographic and Health Survey (NDHS) and the National HIV/AIDS and Reproductive Health Survey (NHRHS) in Nigeria have documented the low usage of condom during sexual intercourse especially among the vulnerable age group of 15 – 25 years [4,5]. The situation is the same for people who are HIV positive. There is a wide range of reasons why the use of condom was low in Nigeria and some of these include the desire to have more children, lack of negotiating power of women, obedience to the demands of their male partner, no prior discussion of HIV/AIDS with partner and lack of marital union [6-8].

With the advent of antiretroviral therapy (ART), many HIV positive people who are on Highly Active Antiretroviral Therapy (HAART) show considerable reduction in viral load, undetectable viral load, marked clinical improvement and associated reduction in morbidity and mortality. There have been different reports on the sexual behaviour of HIV- positive patient on HAART. While some studies reported that there was no association between being on HAART and risky sexual behaviour [9], or a reduction in risky sexual behaviour among people on HAART [10-15], others have shown that a significantly higher proportion of HIV-patients on HAART still engage in risky sexual behaviours [16-18].

Unprotected sexual intercourse (non use of condoms) and inconsistent use of condoms during sexual intercourse apart from increasing the risk of HIV transmission, also predisposes HIV-positive patients to sexually transmitted infections and resistance to antiretroviral drugs. As far as the authors are aware, no information has been documented on the sexual behaviours of HIV-positive people in any of the ART sites in Delta State, Nigeria. Therefore the aim of this study is to describe the socio-demographic characteristics and sexual behaviours of patients attending the ART clinic of Central Hospital, Agbor, Delta State, Nigeria. We also assessed the factors associated with risky sexual behaviours among the patients.

Methodology

Study setting

This descriptive cross-sectional survey was conducted among HIV-positive men and women who were attending ART clinic at the Central Hospital, Agbor, Delta State, Nigeria from June to August, 2009. The hospital provides secondary health care to the people of Delta State with an estimated population of 4.1 million [19] and other neighboring States such as Edo, Anambra and Bayelsa. It is situated midway on the major high way between Benin City in Edo State and Onitsha in Anambra State. It is a state government owned secondary health care facility and has a bed capacity of 186. The Antiretroviral Therapy (ART) program started in July 2006 as an outlet of drugs for Delta state residents living with HIV/AIDS. The program is currently supported by the Institute for Human Virology – Nigeria (IHVN). As at the time of the study, there were about 1,509 HIV positive persons who enrolled into the ART program. Other ART sites in the state include a tertiary health facility Federal Medical Centre, Asaba, and two secondary health facilities Central Hospital Warri and Baptist Medical Centre, Eku.

Study population

The study population comprised of all HIV-positive men and women who were attending ART clinic at the

Central Hospital, Agbor, from 1st of June to 31st of August, 2009.

Data collection

Data were collected by the authors and two research assistants. The research assistants were medical officers working in the ART clinic of the hospital. They were trained on how to administer the questionnaires for one day before the commencement of the study. The respondents were interviewed using a structured, pretested questionnaire. The questionnaire was pretested among HIV-positive men and women receiving ART at the PEPFAR clinic of the University of Benin Teaching Hospital. The questionnaire was used to obtain information on the socio-demographic characteristics and sexual behaviours of the respondents. The information sought on sexual behaviours included sexual activity, number of sexual partners and use of condom during sexual intercourse. Sexual activity was defined as having had a least one sexual intercourse in the last six months preceding the study. The question on the use of condom during sexual intercourse assessed both male and female condoms.

Data analysis

After data collection, the questionnaires were coded and statistical analysis was done using SPSS version 16 statistical software. Descriptive statistics were performed on the socio-demographic characteristics and were presented in simple proportions. The use of condom was coded as follows: 'always' (consistent and regular use of condom), 'sometimes' (inconsistent and irregular use of condom) and 'never' (non usage of condom). A bivariate analysis was performed using the chi square test of association to find out if there was an association between the socio-demographic variables and the use of condom during sexual intercourse by the respondents. Thereafter, the socio-demographic variables that showed a statistical significance were fitted into the binary logistic regression model. The use of condom always during sexual intercourse was coded as '1'. The respondents who use condom sometimes and those who do not use condom during sexual intercourse were merged and coded as '0'. The level of significance set at $p < 0.05$.

Ethical considerations

Permission to carry out this study was sought from the medical director of the hospital. Individual verbal informed consent was also obtained from the study participants and only those who gave their consent after full explanation that confidentiality was assured were recruited to participate in the study.

Results

A total of 406 respondents with a mean age of 37.4 ± 9.5 years participated in the study. Table 1 showed the socio-demographic characteristics of the respondents. This was made up of 301 (74.1%) females and 105 (25.9%) males. Majority (40.6%) were in the age group 25 – 34 years. A higher proportion (56.4%) had secondary education while only 10 (2.5%) had no formal education. One hundred and eighty-five (45.6%) were married, 91 (22.4%) widowed, 67 (16.5%) single, 27 (6.7%) separated, 18 (4.4%) divorced and 18 (4.4%) cohabiting. Their major occupations were artisans 97 (23.9%), civil servants 85 (20.9%), farmers 39 (9.6%) and students 36 (8.9%). Christianity was the predominant religion of the respondents (97.3%).

Table 1: Socio-demographic characteristics of respondents

Variables	Frequency (N = 406)	Percent
Age group (years)		
18 – 24	14	3.4
25 – 34	165	40.6
35 – 44	131	32.3
45 – 54	68	16.7
55 – 64	28	6.9
Gender		
Male	105	25.9
Female	301	74.1
Level of Education		
None	10	2.5
Primary	113	27.8
Secondary	229	56.4
Tertiary	54	13.3
Marital Status		
Single	67	16.5
Married	185	45.6
Widowed	91	22.4
Separated	27	6.7
Divorce	18	4.4
Cohabiting	18	4.4
Occupation		
Traders	129	31.8
Artisans*	105	25.9
Civil servants	85	20.9
Farmers	39	9.6
Students	36	8.9
Armed Forces and Police	12	2.9
Religion		
Christian (Non Catholics)	314	77.3
Christian (Catholics)	82	20.2
African Traditional Religion	6	1.5
Moslem	4	1.0

Mean age = 37.4 ± 9.5 years

Artisans include hairdressers, tailors, welders, motor mechanics, electricians, carpenters, drivers, cobblers, etc

Most (88.4%) attendees were on HAART. Table 2 showed the sexual behaviours of the respondents. Three hundred and sixty-five 365 (89.9%) respondents were sexually active (those who had at least one sexual intercourse six months preceding the study) while 10.1% were not. Among those who were sexually active, 273 (74.8%) had only one partner while 92 (25.2%) had more than one partner. Consistent use of condom during sexual intercourse was practiced by only 97 (26.6%) of the respondents, 118 (32.3%) used condom sometimes while 150 (41.1%) do not use condom at all.

Table 2: Sexual behaviours of respondents

Variables	Frequency	Percent
Sexually active*		
Yes	365	89.9
No	41	10.1
Total	**406**	**100.0**
Number of sexual partners		
One	273	74.8
More than one	92	25.2
Total	**365**	**100.0**
Use of condom		
Always	97	26.6
Sometimes	118	32.3
Never	150	41.1
Total	**365**	**100.0**

***Sexual activity defined as having had at least one sexual intercourse six months preceding the study.**

The association between the socio-demographic characteristics of the respondents and their use of condom during sexual intercourse is shown in Table 3. Age (p = 0.004), gender (p = 0.001), level of education (p = 0.001), marital status (p = 0.004) and religion (p = 0.009) of the respondents were significantly associated with the use of condom during sexual intercourse (Table 3).

Table 3: The use of condom during sexual intercourse by socio-demographic characteristics of respondents

Variables	Use of condom				
	Always	Sometimes	Never	X^2	P value
	n (%)	n (%)	n (%)		
Age group (years)					
18 – 24	5 (35.7)	4 (28.6)	5 (35.7)	28.874	0.004*
25 – 34	33 (22.1)	62 (41.6)	54 (36.2)		
35 – 44	40 (33.9)	36 (30.5)	42 (35.6)		
45 – 54	12 (19.7)	14 (22.9)	35 (57.4)		
55 – 64	7 (30.4)	2 (8.7)	14 (60.9)		
Gender					
Male	43 (43.9)	33 (33.7)	22 (22.4)	26.501	0.001*
Female	54 (20.2)	85 (31.8)	128 (47.9)		
Level of Education					
None	1(16.7)	0 (0.0)	5 (83.3)	23.657	0.001*
Primary	22 (22.0)	21 (21.0)	57 (57.0)		
Secondary	58 (26.9)	80 (37.0)	78 (36.1)		
Tertiary	16 (37.2)	17 (39.5)	10 (23.3)		
Marital Status					
Single	17 (27.4)	24 (38.7)	21 (33.9)	25.829	0.004*
Married	54 (29.8)	64 (35.4)	63 (34.8)		
Widowed	13 (19.7)	11 (16.7)	42 (63.6)		
Separated	4 (19.0)	4 (19.0)	13 (61.9)		
Divorce	3 (17.8)	8 (47.1)	6 (35.3)		
Cohabiting	6 (33.3)	7 (38.9)	5 (27.8)		
Religion					
Christian (Non Catholics)	62 (22.5)	90 (32.7)	123 (44.7)	15.178	0.009*
Christian (Catholics)	34 (41.5)	26 (31.7)	22 (26.8)		
African Traditional Religion	1 (25.0)	1 (25.0)	2 (50.0)		
Moslem	0 (0.0)	1 (25.0)	4 (75.0)		
Respondents on HAART					
Yes	81 (25.1)	108 (33.4)	134 (41.5)	3.540	0.170
No	16 (38.1)	10 (23.8)	16 (38.1)		

***Statistically significant**

However, there was no statistically significant association between the respondents being on HAART and their use of condom during sexual intercourse (p = 0.170). When the socio-demographic variables that showed statistical significance were fitted into the binary logistic regression model only gender was identified as a significant predictor of the use of condom use (Table 4).

Table 4: Logistic regression model for the use of condom during sexual intercourse by respondents

Factor	B coefficient	Odds Ratio	P value	95% CI
Age group	0.680	1.973	0.080	0.386 – 10.073
Gender	1.139	3.123	**0.001**	1.749 – 5.576
Level of education	−0.423	0.655	0.703	0.064 – 1.814
Marital status	−0.591	0.554	0.655	0.169 – 1.814
Religion	1.241	3.459	0.127	0.269 – 44.824
Constant	−1.643	0.193	0.187	--------- ---------

The male respondents were more likely to use condom during sexual intercourse compared to their female counterparts (OR = 3.123, CI = 1.749 – 5.576).

Discussion

The HIV/AIDS scourge mostly affects young and productive men and women who are in their prime of life. It is therefore not surprising to find majority of the ART clinic attendees to in the age group of 24 – 34 years with a mean age of 34.0 ± 9.4 years. This is similar to findings in other studies in other parts of Africa [16,20]. However, studies in Mombasa and Nairobi Kenya reported a slightly higher mean age of 37 years among ART clinic attendees [10,17]. This study was dominated by female respondents and this is a reflection of the fact that females are still at the receiving end of the HIV virus transmission. This has a lot of implications/setbacks to the achievement of goals 5 and 6 of the Millennium Development Goals (MDG). Majority of the ART clinic attendees were artisans made up of hairdressers, tailors, welders, motor mechanics, electricians, carpenters, drivers, cobblers, etc. Of particular note is the fact that hairdressers and tailors make use of needles in the course of their work and therefore they are prone to needle stick injuries which may predispose them to blood borne infections including HIV/AIDS yet little or no attention has been paid specifically to these group of people in terms of HIV/AIDS prevention activities. The initiation of ART depends on the CD4+ cells and WHO clinical staging of the disease [21]. Most (88.4%) of the ART clinic attendees were on HAART and this could probably be as a result of late presentation to the ART clinic for care and treatment.

Most of the respondents in this study were sexually active i.e. they have had sexual intercourse at least once in the last six months preceding the study with a quarter of them reported having more than one partner. The proportion of respondent who reported multiple sexual partners in this study was far higher than the 10 percent in a study in Ethiopia [16]. It is worrisome that among the sexually active respondents, 41.1% reported unprotected sexual intercourse while 32.3% reported inconsistent use of condom during sexual intercourse.

Overall, 73.4% respondents in this study were involved in risky sexual behaviour. This high risky sexual behaviour is similar to the result of a study in India in which 80% of the men and all the women reported that they did not use condoms during both premarital and extramarital sex [22]. This is again far higher than the finding of a study in South Africa which reported 40.1% for men and 46.3% for women [23] and the 36.9% and 35.0% reported in studies in Ethiopia and Kenya respectively [16,17]. This might be related to the fact that majority of our respondents were female who lack the will power to insist on the use of condom by their partners. Another probable reason may be because more than half of the respondents were not in a marital relationship as persons who are not married are more likely to engage in sexual activities for reasons such as financial gains thus reducing their ability to insist on condom use.

More men (OR = 3.123, CI = 1.749 – 5.576) than women reported consistent use of condom in this study. Although we did not explore the HIV status of sexual partners of our respondents, this study may indicate that the rate of HIV transmission may be high among the ART clinic attendees as they can expose HIV negative persons to infection with the virus and HIV positive persons to reinfection with HIV. This study did not find any association between being on HAART and the consistent use of condom during sexual intercourse. A possible reason for this may be because of the large proportion (88.4%) of respondents who are on HAART in this study.

Our study has the following limitations: First, information on sexual behaviour relied on reports by respondents who may be prone to recall bias since we assessed six months preceding the study. Secondly, in this setting sexual issues are sensitive and respondents may not give information freely about their sexual activities despite the assurance of confidentiality. Finally, we did not explore whether our respondents were engaged in other forms of sexual intercourse such oral and anal sex.

In conclusion, this study has revealed that the prevalence of risky sexual behaviours i.e. unprotected sexual intercourse was high among the ART clinic attendees and this will dovetail into high transmission of the HIV virus in the study setting. Female respondents were less likely to use condom during sexual intercourse. There was no statistically significant association between the use of HAART and the use of condom. Efforts should be made by health care workers who care for HIV positive men and women to educate ART clinic attendees on the implications of risky sexual behaviours. Special attention should be paid to HIV positive women on the need for them to always insist on safer sex from their partners.

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