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Original Research Article

Sexual Behaviors and Status Disclosure of Adult HIV Positive Patients Enrolled in Care in Yola, Nigeria

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ABSTRACT

With the availability of ART in most parts of Nigeria, more HIV positive individuals are living healthy lives. In periods of illness, sexual activity may be the last thing on the mind of a HIV positive individual but when in good health, sexual activity is definitely expected.
This study describes the baseline sexual behaviors and status behavior of a three arm single blind randomized controlled clinical trial involving 386 randomly selected and allocated adult HIV patients who were enrolled into ART at all four comprehensive ART sites in Yola. The intervention was 10 to 15 minutes clinic based Clinician Client Centered counseling. An interviewer administered validated structured questionnaire was used for data collection. One hundred and eleven (62.4%) of respondents were inconsistent condom users, 29 (7.5%) had more than one sexual partner/spouse while 33 (11.3%) were yet to disclose their status to their spouse(s) and/or sex partners. Inconsistent condom use, non status disclosure and sex with an unsteady partner were the most common high risk behaviors. Behavioral interventions are thus needed to reduce HIV spread in these groups of people.

Key words: Sexual behaviors; HIV status disclosure; adult HIV patients; Nigeria.

INTRODUCTION

HIV/AIDS is recognized as a major challenge to public health in recent times. An estimated 34.0 million people are presently known to be living with HIV/AIDS globally. [1] This epidemic varies considerably among countries and regions with Sub –Saharan Africa remaining the most severely affected. Nearly 1 in 20 adults (4.9%) are living with HIV in Sub- Saharan Africa and accounting for about 69% of the global burden. [1]

Nigeria has a HIV prevalence of 3.4%. [2] This prevalence accounts for about 3.2 Million Nigerians out of which 2.8 Million are aged 15 years and above. [2] Adamawa state with Yola as capital, located in the north-eastern region has a prevalence of 1.9%. [2]

The primary mode of transmission of HIV in Nigeria is heterosexual sex accounting for about 80-95% of HIV infection in the country. [3]
Studies carried out in Nigeria show a wide variation in sexual behaviors among people

living with HIV/AIDS (PLWHAs). A 16% prevalence of condom use in last sexual act has been reported in the country. [4] As low as 14% of HIV positive patients newly enrolled in ART care reported condom use during sexual activity at commencement of antiretroviral therapy in south west of the country. [5] Among HIV positive patients receiving care in a general hospital in Iquita, Akwa Ibom State (South South Nigeria); 38% of respondent did not use any means to protect their sexual partners and prevalence of condom use among this group of patients was 23.4%. [6] A prevalence of 69.5% of unprotected sexual intercourse was reported between HIV concordant and HIV non concordant sexual partners by both men and women with prevalence of condom use in the last sexual act as low as 30.5%. [7] A 58.2% prevalence of regular condom use was reported among PLWHAs receiving ART care at a general hospital in Kogi State (North Central Nigeria); also among this group of PLWHAs a multiple sexual partnership prevalence of 56.0% was reported. [8]

HIV status disclosure helps to reduce the transmission of HIV by raising awareness which in turn decreases risky behavior. Status disclosure to spouses and/or sexual partners in Nigeria is still of relatively low incidence. About nineteen percent of PLWHAs enrolled in care at a teaching hospital in the north central area of Nigeria reported they had disclosed their HIV status to a spouse and/sex partner. [9] A higher rate of disclosure though, has been reported among PLWHAs attending secondary health facilities in Ogun state (South West Nigeria) in which 50.9% of the 637 respondents indicated they had disclosed their HIV status to their main sex partner. [10]

In the past, strategies for HIV prevention focused on HIV negative individuals or those of unknown serostatus. [11] Today program planners have recognized that continued reliance on general HIV prevention messages may limit the effectiveness and sophistication of preventive messages. [12] Thus it may be more efficient to change behaivor among fewer HIV positive individuals than the many HIV negative ones. [13] HIV preventive strategies that target HIV positive individuals are known as positive prevention strategies. [14]

The Information Motivation Behavior (IBM) model provides a general approach in the design, implementation and evaluation of HIV risk reduction intervention programs which are targeted at the needs of specific populations that are at risk. [15] There are three phases involved in the application of this model; the first is the design; that is the development of the model, the second is the deployment; which is the implementation of the model and lastly the third; which is the evaluation of the effectiveness of the model on reducing HIV related risk behaviors. Previous research has shown this model to be effective in producing significant changes in HIV risk reduction information, motivation and behavioral skills, and also sustained improvements in HIV related preventive behavior such as condom use. [15]

Studies have reported behavioral interventions in the form of counseling to reduce risky sexual behaviors among adult patients living with HIV. [16,17] However, none of such studies have been conducted in Yola.

In recognition of the fact that behavioral change still remains a driving force against HIV in Nigeria, there is an urgent need for behavioral change prevention interventions. This paper presents the baseline sexual behaviors and HIV status disclosure of adult HIV positive patients enrolled into care at all four comprehensive ART sites in Yola.

MATERIALS AND METHODS

Study Design: Baseline reports on the sexual behaviors and HIV status disclosure were obtained from a three arm single blind randomized controlled clinical trial involving 386 randomly selected and allocated adult HIV patients enrolled into

Antiretroviral Therapy (ART) care at any four comprehensive ART sites in Yola. These comprehensive sites were the; Federal Medical Center (FMC) Yola, State Specialist Hospital Yola (SSHY), St Francis Hospital Jambutu and Adamawa Hospital.

This study was carried out from January to September 2014. A Clinician Client Centered training module was developed based on the Information Behavior and Motivation (IBM) Model. Nine Clinicians involved in ART care were trained with this module to deliver a 10 to 15 minutes clinic based intervention (Clinician Client Centered (CCC) counseling). Intervention group one received two counseling sessions; at baseline then at two months. Intervention group two received a counseling session at baseline and the control group received routine care.

Participant selection criteria and recruitment: Criteria for inclusion were all persons diagnosed with HIV ≥ 18years of age presenting to the four comprehensive ART clinics in Yola. Patients excluded from this study were those patients who declined consent or who were HIV positive but diagnosed with psychiatric disorders and were mentally incapacitated.

Sample size: The sample size was estimated using the formula of Lemeshow et al. [18] Estimations were done for all outcome variables of this research. These variables were; HIV knowledge, attitudes towards HIV/AIDS, condom use, multiple sexual partners/sex with an unsteady partner and HIV status disclosure.

The largest sample size was obtained for the outcome variable of attitude towards HIV/AIDS. This outcome variable is however, not reported in this paper. Prevalence of positive attitudes towards HIV/AIDS of PLWHAs in Nigeria is 79.3%. [19] A prevalence of 90% positive attitude towards HIV/AIDS was desired. An initial sample size of 117 was obtained per group making a total of 351 for the three groups. Taking into account 10% for attrition the final sample size was 386. Probability proportionate to the size of adult patients living with HIV enrolled in care at each comprehensive ART site was used to allocate the number of participants recruited at each site.

Systematic sampling method was used to select participants at each site on every clinic day during the recruitment period. The sample frame was the patient register in the ART clinic at each recruitment site. A sampling interval was calculated for each site using the allocated sample size and average attendance. The first participant was recruited at each site by balloting; a member of the research team was asked to choose a lucky number between numbers one and the site's sampling interval. The patient whose serial number corresponds with the chosen number was the first to be selected at the site. This process was done at all study sites. Subsequent respondents were those whose serial numbers correspond with the previous respondent's plus sampling interval of the site.

At the recruitment sites, a total of 526 HIV positive patients were assessed for their eligibility out of which 140 were excluded. Reasons for exclusion included 56 patients who did not meet inclusion criteria (50 children and six with psychiatric disorders) and 60 patients who declined consent. Twenty four others declined to participate for reasons which included: 20 patients who intended to transfer out to other ART care clinics outside Yola (study area); and four pregnant women who expected to give birth during the period of the research and believed that their deliveries may affect compliance with the study protocol. Eligible patients who gave their consent were randomized and blinded (Figure1).

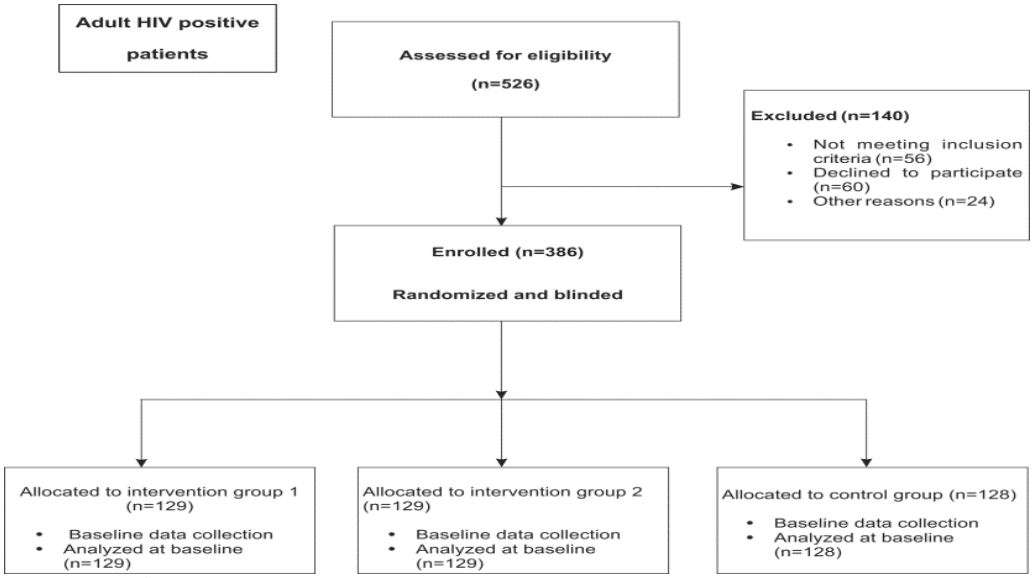

Figure 1: Flow diagram of patient participants in a randomized clinical trial conducted among HIV positive patients in all 4 comprehensive ART sites in Yola Nigeria.

Intervention: The intervention was a 10 to 15 minute clinic based one on one counseling session between a clinician (counselor) and an adult patient living with HIV (client). Counseling sessions were interactive and allowed for listening, questions and answers. They were cultural sensitive and also consider issues related to gender and age. Areas covered during the brief counseling included; HIV transmission and prevention, healthy sexual practices, condom use, reduction in multiple sexual partners, beneficial disclosure, and individual risk assessment and reduction strategies. Clinicians evaluated patients' readiness to change risky or maintain safer behaviors; they also assisted the patient to negotiate an individually tailored behavior change or maintenance plan of action.

Data collection: A validated and pretested questionnaire was employed as the data collection tool. Questionnaires were interviewer administered and baseline data was obtained from all 386 respondents. The questionnaire was a modified version of those used by used by Carey, Morrison and Johnson (HIV knowledge and prevention) in 1997, [20] Misovich, Fisher and Fisher (A measure of AIDS prevention information, motivation, behavioral skills and behavior) in 1998 [21] and the AIDSCAPS/WHO/CAPS Counseling & Testing Efficacy study: C & T Baseline instrument in 1995. [22] It consisted of five sections; Section one on socio-demographic variables, Section two consisted of questions on the knowledge of HIV transmission and prevention and had a total of 17 statements and answers that had the options of 'yes', 'no' and 'don't know'. Section three consisted of five statements to address patient's attitude towards HIV/AIDS. Answer options to these questions were from a five point Likert scale ranging from strongly agree, agree, don't know, disagree and strongly disagree. Section four addressed sexual behavior patterns; recent sexual activity in last 30 days preceding the survey, type of sexual relationship (monogamous or polygamous), condom use, gender of sexual partner and type of sexual practice. Section five addressed HIV status disclosure. Questions were directed at number of spouse/sexual partner the respondent had disclosed his or her HIV status to in preceding 30 days of the survey.

Definition of terms: An adult HIV patient in this study was a person ≥ 18 years of age reactive to HIV antibody in his or her serum. Sexual intercourse/sexual encounter referred to penetrative/receptive vaginal, oral or anal sex. For this study two groups of sex partners were considered; in marriage and out of marriage. Sexual relationship referred to relationships involving sexual

intimacy. An unsteady sex partner was one who a respondent had sexual relations with, within but not prior to the 30 days of the interviews and had no intention of having a committed sexual relationship with him or her.

Measurements: Measurements were operational as follows: Independent variables which included age at last birthday later categorized in 10-year age brackets, gender, occupation, marital status and education that were nominally categorized.

Primary outcome variables included; frequency of condom use during coitus, prevalence of multiple sexual partners and HIV status disclosure to spouses and/or sexual partners, all in the preceding 30 days of the interviews.

Ethical clearance: Ethical approval was obtained from the University Human Research Ethics Committee of the Faculty of Medicine and Health Sciences, Universiti Putra Malaysia before conducting the study. Ethical clearance was also obtained from the Health Research Ethics Committee of Federal Medical Center Yola Nigeria. A written and signed informed consent was obtained from each participant. This written consent was made available in English, Hausa and Fulani (Hausa and Fulani being the two major native languages in Yola)

Data analysis: Data was analyzed using SPSS version 22. Tools used include; descriptive statistics, Chi square and one way ANOVA. Primary outcome variables were self reported sexual behaviors 30 days prior to interviews.

RESULTS

Table1. Socio-demographic characteristics by groups

Variables	Frequency, n (%)			Total	Test type	p-value
	Intervention 1	Intervention 2	Control group			
Age group (years)						
<30	29 (22.5)	26 (20.2)	33 (25.8)	88 (22.8)	χ^2	0.32
30-39	47 (36.4)	62 (48.1)	41 (32.0)	150 (38.9)		
40-49	40 (31.0)	25 (19.4)	39 (30.5)	104 (26.9)		
≥50	13 (10.1)	14 (10.9)	17 (13.4)	44 (11.4)		
Total	129(100.0)	129(100.0)	128(100.0)	386(100.0)		
Mean, SD	37.47 (9.45)	37.12 (9.76)	37.07 (10.02)	37.22(9.72)	*F*	0.94
95% CI	(35.82-39.12)	(35.42-38.82)	(35.32-38.82)	(36.24-38.19)		
Gender						
Male	38(29.5)	32(24.8)	36(28.1)	106(27.5)	χ^2	0.70
Female	91(70.5)	97(75.2)	92(71.9)	280(72.5)		
Total	129(100.0)	129(100.0)	128(100.0)	386(100.0)		
Marital status						
Single	25(19.4)	19(14.7)	30(23.4)	74(19.2)	χ^2	0.18
Married	66(51.2)	75(58.1)	66(51.6)	207(53.6)		
Divorced/ Separated	15(10.9)	16(12.4)	9(7.1)	39(10.1)		
Widowed	24(18.6)	19(14.7)	23(18.0)	66(17.1)		
Total	129(100.0)	129(100.0)	128(100.0)	386(100.0)		
Occupation						
None	20(15.6)	35(27.2)	39(30.5)	94(24.4)		
Student	6(4.7)	9(7.0)	7(5.5)	22(5.7)		
Civil servant	39(30.2)	29(22.5)	34(26.6)	102(26.4)	χ^2	0.32
Business	34(26.4)	30(23.3)	27(21.1)	91(23.6)		
Farming	9(7.0)	9(7.0)	8(6.3)	26(6.7)		
Others	21(16.3)	17(13.2)	13(10.2)	51(13.2)		
Total	129(100.0)	129(100.0)	128(100.0)	386(100.0)		
Level of education						
None/informal	11(8.6)	20(17.1)	23(18.0)	54(14.5)		
Primary	36(28.0)	17(13.2)	24(18.8)	77(19.9)		
Secondary	38(29.5)	45(34.9)	37(29.0)	120(31.1)	χ^2	0.26
Tertiary	44(34.1)	45(34.9)	44(34.4)	133(34.5)		
Total	129(100.0)	129(100.0)	128(100.0)	386(100.0)		

Chi square test (χ^2) One way ANOVA (F) test, Significant at $p < 0.05$

Socio-demographic characteristics of respondents: Out of the 386 patient, 106 (27.5%) were male. Most respondents 150 (38.9%) were between the ages of 30 to 39 years though the youngest respondent was 18 years and the oldest 70 years. The largest

indigenous tribe was the Bwatiye tribe consisting in total 70 (20.5%) of respondents two hundred and ninety six (76.9%) were from Adamawa state. Majority were married 207 (53.6%) One hundred and thirty three (34.5%) had attained tertiary education while 54(14.5%) had no form of education or were informally educated. Majority of respondents were civil servants (government employed); 102 (26.4%).

Most respondents 207 (53.9%) had known about their HIV status for less than three years with 377 (97.7%) already on HAART. No significant difference was seen in the socio-demographic characteristics among the 3 study groups (Table 1).

Sexual behaviors: Table 2 shows the sexual behaviors of respondents by gender. In total, 3 (0.8%) respondents had never had sexual intercourse. Two hundred and ninety two (75.6%) respondents admitted to being in sexual relationships. Less than half (46.1%) of the respondents had sex 30 days prior to interview and 20 (5.2%) had sex with an unsteady partner within this same period. There was a significant association between prevalence of sex activity in the preceding 30 days and gender (p= 0.003) and a significant association between the prevalence of respondents in sexual relationships and gender (p=0.019) (Table 2).

Among the 292 respondents in close relationships involving sexual intercourse, 215 (73.2%) and 224 (76.4%) had discussed safer sex and condoms with their sexual partners and/or spouses respectively (Table 2). Out of the 178 respondents who had sexual activities in the last 30 days, 67 (37.6%) reported that they had used condoms consistently in each sexual act while 111 (62.4%) reported inconsistent condom use during sex in the last 30 days (Tables 2). Among these inconsistent condom users; 58 (52.3%), admitted to never using condoms during sexual intercourse.

Table 2: Sexual behaviors by gender

Variables	Sex		Total	p-value
	Male n, (%)	Female n, (%)		
Have you ever had sexual intercourse?(n=386)				
Yes	106(100.0)	277(98.9)	383(99.2)	
No	0(0.0)	3(1.1)	3(0.8)	0.29
Total	106(100.0)	280(100.0)	386(100.0)	
Have you had sexual intercourse at all during the last 30 days?(n=386)				
Yes	62(58.5)	116(41.4)	178(46.1)	
No	44(41.5)	164(58.6)	208(53.9)	0.01*
Total	106(100.0)	280(100.0)	386(100.0)	
Are you in any sexual relationship? (n=386)				
Yes	89(84.0)	203(72.5)	292(75.6)	
No	17(16.0)	77(27.5)	94(24.4)	0.02*
Total	106(100.0)	280(100.0)	386(100.0)	
Have you had sex with an unsteady partner in the last 30 days?(n=386)				
Yes	6(5.7)	14(5.0)	20(5.2)	
No	100(94.3)	266(95.0)	366(94.8)	0.79
Total	106(100.0)	280(100.0)	386(100.0)	
Have you ever discussed safer sex with your partner(s)?(n=292)				
Yes	69(76.7)	146(72.3)	215(73.6)	
No	21(23.3)	56(27.8)	77(26.4)	0.34
Total	90(100.0)	202(100.0)	292(100.0)	
Have you ever discuss condom use with your partner(s)?(n=292)				
Yes	67(74.4)	157(77.7)	224(76.7)	
No	23(25.6)	45(22.3)	68(23.3)	0.55
Total	90(100.0)	202(100.0)	292(100.0)	
Condom use in sexual activity in last 30 days (n=178)				
Consistent condom user	25(40.3)	42(36.2)	67(37.4)	
Inconsistent user	37(59.7)	74(63.8)	111(62.4)	0.36
Total	62(100.0)	116(100.0)	178(100.0)	

p value calculated using Chi square test (χ^2), Significant at $p < 0.05$

Table3. Type of union, disclosure status and awareness of spouse(s)/sex partner(s) status by gender

Variable	Sex		Total	p-value
	Male n, (%)	Female n, (%)		
Number of spouse(s)/Partner(s) (n=386)				
None	16(15.1)	78(27.9)	94(24.4)	
One	76(71.7)	187(66.8)	263(68.1)	0.01*
More than one	14(13.2)	15(5.4)	29(7.5)	
Total	106(100.0)	280(100.0)	386(100.0)	
Disclosed HIV status to spouses(s)/partner(s)(n=293)				
No	4(4.4)	29(14.4)	33(11.3)	
Yes	85(95.6)	174(85.6)	259(88.7)	0.02*
Total	90(100.0)	202(100.0)	292(100.0)	
Awareness of spouse or sexual partner's HIV status (n=292)				
HIV+	75(83.3)	156(77.2)	231(79.1)	
HIV-	12(13.3)	45(22.3)	57(19.5)	0.08
Unknown	2(2.2)	2(0.1)	4(1.4)	
Total	90(100.0)	202(100.0)	292(100)	

p value calculated using Chi square test (X^2), Significant at $p < 0.05$

Tables 3 shows the type of sexual unions, HIV status disclosure to spouse/sex partners and awareness of spouse and/sex partners' HIV status by gender. Most respondents 263 (68.1%) were in monogamous unions while 29 (7.5%) were in polygamous unions (marital and non marital). These polygamous unions consisted of 24 (82.8%) polygamous marriages, three (10.3%) single persons who admitted to having more than one sexual partner, one (3.5%) female respondent who admitted to being in a sexual relationship with a married man and one (3.5%) male respondent who was married in a monogamous setting but having an extramarital affair with a single lady. Thirty three (11.3%) of respondents with partners/spouses were yet to disclose their HIV status to them (Table 3). There was a significant association between the prevalence of polygamous and monogamous unions and gender ($p = 0.003$) (Table 3). A significant association was seen between HIV status disclosure and gender ($p = 0.015$) (Table 3).

Among respondents in sexual relationships, 57 (19.5%) were discordant (Table 3). Major (98.9%) sexual practice reported was insertive/receptive vaginal intercourse while 0.2% reported both vaginal and oral sexual practice. No same sex sexual relationship was reported in this study. No statistical difference was seen for sexual behaviors among the three study groups.

DISCUSSION

During periods of illness the last thing on the mind of an HIV positive individual may be sex. But during periods of good health, sexual activity is definitely expected. With the availability of ARVs in most parts of the Nigeria, more PLWHAs are living healthy lives.

Various sexual behaviors of the HIV positive respondents were studied in this research. But of particular interest were; multiple sexual partners including sex with an unsteady partner and condom use.

The unbalanced sex ratio seen amongst respondents of this study could be explained by the fact that women have tended to attend hospitals more often in these settings than men; even for stigmatizing ailments. Early diagnosis during PMTCT and gender difference in health seeking behavior could also partly explain this sex ratio among the respondents.

No prior intercourse reported by three respondents may indicate that their source of HIV infection may be non sexual.

This research considered both marital and non marital unions. The reported proportions of polygamous unions appear grossly under reported. Reasons for under reporting could be due to fear of disapproval of such behaviors by the attending clinicians who carried out the intervention and did the questioning. Also the lack of anonymity of this study may have affected the truthfulness of responses.

Respondents who reported having sex with an unsteady partner in preceding 30days may also be considered to be under reported for similar reason as those stated for under reported polygamous unions given above.

Higher proportions of multiple sexual partners have been seen in other studies conducted among PLWHAs in Nigeria. In a study conducted in Northern Nigeria 17% of respondents were reported to have multiple sexual partners, with frequencies ranging from two to five. [23] The study by Amoran in Southwest of Nigeria showed that 32.7% of respondents were in polygamous marriages. [10] Obi et al also reported 64.8% of PLWHAs to have two or more sexual partner in south east Nigeria. [24]

Inconsistent condom use among PLWHAs is not a unique finding to this research alone. Similar findings were seen in a study conducted to determine risk factors for HIV transmission among PLWHAs in Kano, northern Nigerian where 17.6%, 67.8% and 8.3% reported to always, occasionally and never use condoms respectively. [25] The proportion of HIV positive individuals in this report who used condoms consistently are less than in the current research.

Other studies that have shown lower proportions of condom use than that reported in this research. Akinyemi et al reported that prior to commencing ARVs, 14.0% PLWHAs used condoms during sexual intercourse while 43.2% did not. [5] In addition a baseline report of an intervention study conducted among PLWHAs in Southeast Nigeria reported 40.4% non use of condoms with sexual partners. [24]

A hospital based study conducted among PLWHAs receiving care at Abejukolo General Hospital in North central Nigeria reported that 64.4% of respondents always used condoms during sexual intercourse while 35.6% were occasional users. However only 51.5% had use condoms in their last sexual encounter. [25]

World Health Organization (WHO) reported that rates of disclosure in studies from developing countries are notably lower than in developed countries and ranged from 16.7% to 86%; among studies reported, an average rate of status disclosure was 49%. [26] This research reported a disclosure rate slightly higher than this range. A high disclosure rate seen in this study could be due to the fact that quite a number of respondents had met their spouses at their various ART clinics before getting married.

In the study conducted by Amoran among a sample of 637 PLWHAs attending a secondary health facility in Ogun state, 324 (50.9%) of them had disclosed their HIV status to their main partners. [10] This proportion of HIV status disclosure reported is much lower than that seen in this study.

Lower HIV status disclosure rates to spouses and or sexual partners have been reported in other hospital based studies conducted among adult HIV positive patients within Nigeria; 18.6%, 61.5% and 50.9%. [9,10,27]

The study by Kidder et al reported that 34% of participants were unaware of the HIV status of their spouses and/or sexual partner and 18.9% of couples were discordant, [28] this proportion of discordant couples reported is similar to the findings of this study. A higher proportion of discordant couples were reported in the study by Musinguzi et al, in which 25.2 % were unaware of the HIV status of their regular partners and 58.9% of couples were discordant. [29]

Strength of this study is that it used systematic sampling which ensured that the population was evenly sampled. Limitations include that though patients were sampled from the four ART comprehensive sites in Yola, it may not be fully representative of all persons living with HIV/AIDS in Yola as due to stigma and discrimination a significant number of patients still access ART services elsewhere. Patients who declined to participate in this study could have increase the non-response bias. With the questionnaire as the tool of data collection, a lot depended on the truthfulness of respondents.

CONCLUSION

Inconsistent condom use, sex with an unsteady partner and non disclosure of HIV status to a spouse and/sex partner were the most common behaviors reported among this group of ART patients. Behavioral interventions to improve condom use, reduce multiple sexual partners and increase status disclosure are thus recommended to improve HIV prevention in these groups of people.

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