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Research Article
Prevalence, Pattern and Predictors of Disclosure among HIV Positive Clients of FMC Bida Art Clinic

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Abstract

Background and Objective: Disclosures of HIV serostatus is a vital public health strategy in HIV care and prevention efforts. This study attempts to determine, the prevalence, patterns and predictors of HIV serostatus disclosure among attendees of the ART clinic of Federal Medical Centre, Bida, Nigeria. It's hoped that the findings from this study will guide health promotion and counseling among those infected and affected. **Materials and Methods:** This was a facility based cross-sectional study carried out at ART clinic on 325 clients selected by systematic random sampling. Data was collected using a structured interviewer administered questionnaire. **Results:** The level of disclosure to at least someone was 283 (87.0%). All those who disclose were to sexual partners but only 250 (88.3%) of these were to the spouses. The factors associated with HIV disclosure are age (26-45 years), being married and in a monogamous relationship and having once spouse as a sexual partner. In addition, prior counseling before testing, awareness of partner status, being on HAART, use of condom membership of support group and supportive perception of support received. However in the multivariate logistic regression only being married (OR = 0.08, 95% CI = 0.03-0.23, p<0.001), being on HAART (OR = 0.74, 95% CI = 0.00-0.01, P 0.018) and being Awareness of partner HIV status (OR = 0.15, 95% CI = 0.06-0.36, p<0.001) were predictors of serostatus disclosure. **Conclusion:** Majority of the respondents disclose to at least someone, especially to their sexual partners. HIV prevention programs should focus on ensuring mutual disclosure of HIV test results and targeting at risk groups.

Key words: Disclosure, HIV status, ART clinic, predictor., serostatus, medical centre Bida

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Competing Interest: The authors have declared that no competing interest exists.

Data Availability: All relevant data are within the paper and its supporting information files.

INTRODUCTION

HIV/AIDS remains an incurable but preventable major public health problem worldwide and especially in sub-saharan Africa[1]. Antiretroviral therapy has been used for the management of the disease enabling PLWHA to live longer lives[2]. Encouraging seropositive people to voluntary disclose their serostatus to their sex partners has long been promoted as a key component of HIV prevention[3,4]. This disclosure motivates partner to seek testing or change behavior and ultimately decrease HIV transmission.

Disclosure is defined as the willingness of people living with HIV/AIDS (PLWHA) to reveal their seropositive status to another person[2].

The rates of HIV status disclosure are generally high and ranged between 39.5-97.5%[5,6-9-12]. The females are more likely to disclose their status than men[1]. Furthermore, the persons to whom disclosure is made is mostly sexual partners and followed by parents, of whom mothers are twice more likely to be confided in, than fathers. In studies done in the African continent, the rate of disclosure ranged from 22-94.5%, depending largely on the study subject, locality and methodology[3,4,13].

The prevention and control of human immunodeficiency virus (HIV) infection depends on the success of strategies to prevent new infection and to treat currently infected individuals[3]. Disclosure of HIV status is one of the strategies that fulfill these dual goals. Disclosure of HIV test result offers a number of important benefits to the infected individual and to the general public. These include increased opportunity for social support, improved access to necessary medical care including ART, increased opportunities to discuss and implement HIV risk reduction with partner and increased opportunities to plan for the future[14].

In spite of this numerous benefits, there are potential risks for the individual who disclose his/her status including loss of economic support, blame, abandonment, physical and emotional abuse, discrimination and disruption of family relationship[15].

It has been suggested that personal decision to disclose HIV status are made based on the perceived consequences of such disclosure[16]. For instance, where the negative consequences outweighs the benefit, disclosure are not made. This in turn leads to lost opportunity for the prevention of new infection and for the ability of the affected person to access appropriate treatment, care and support services where available.

Numerous factors have been found to predict those likely to disclose these include, married relationship, increased condom use, knowledge of partner's HIV status, staying together with partner and discussion about HIV testing before going for testing[3]. Others are age 26-35, primary education and urban dwelling among others[1], the stage of disease, with advanced disease recognized as a significant factor and less experience of violence[17].

The objective of the study was to determine the prevalence, pattern, predictors and outcomes of HIV sero positive status self-disclosure among clients at STC clinic in FMC Bida.

MATERIALS AND METHODS

Study site: The study was conducted at Federal Medical Centre (FMC), Bida, Anti-retroviral Treatment Clinic (ART). The FMC Bida is a tertiary health centre, within Niger state and receives referral from the neighbouring states within the North Central zone of Nigeria.

Study design: The study was a facility based cross-sectional study using interviewer-administered pre-tested questionnaires from October-December, 2017, using exit interview.

Study population: The study was conducted on HIV positive adults attending ART clinic who gave consent to be included in the study.

Sampling procedure: The HIV positive adult attending ART clinic were selected through systematic random sampling until the desired number of 325 was achieved.

Sample size: The sample size was 325 as calculated from the formula by Kish[18].

Data collection and instrument: Quantitative data was collected using interviewer administered pre-tested questionnaires to determine: The socio-demographic variables such as age, marital status, residence, employment, education level, place of domicile, religion and tribe. The disclosure status whether disclosed or not, to whom, when, outcomes of disclosure. The primary outcome was disclosure.

Data entry and analysis: Data was entered and analyzed using statistical package for social science (SPSS version 21). The categorical data was summarized into frequencies or proportions. The socio-demographic and sexual characteristics of respondents who disclosed their HIV serostatus were analyzed using a chi-square test. Significance of association

obtained was then fitted into multiple logistic regressions to identify the independent contribution of each variable for HIV sero-positive status disclosure. A p-value less than 0.05 were taken as a cut off point for significant association.

Ethical consideration: The study was approved by the Hospital Ethics and Research Committee (HREC) of FMC Bida.

RESULTS

A total of 325 respondents were interviewed, the socio-demographic profile of respondents given in Table 1. According to which 32.6% were males and 67.4% were females. The mean age and standard deviation are 42.98±10.850 years and age groups 26-35 years and

Table 1: Socio-demographic profile

		Sero-status disclosure			
Variables	Frequency (%)	Yes (283)	No (42)	Chi-square	p-value
Age					
16-25	29 (8.9)	23 (8.1)	6 (14.3)	27.406	0.002
26-35	109 (33.5)	97 (34.2)	12 (28.6)		
36-45	106 (32.6)	96 (34.3)	10 (23.8)		
46-55	59 (18.2)	47 (16.6)	12 (28.6)		
56-65	19 (5.8)	17 (6.0)	2 (4.8)		
66-75	3 (0.9)	3 (1.1)	0 (0.0)		
Sex					
Male	106 (32.6)	96 (33.8)	10 (23.8)	1.939	0.379
Female	219 (67.4)	187 (66.2)	32 (76.2)		
Religion					
Christianity	95 (29.2)	84 (29.9)	11 (26.2)	0.216	0.643
Islam	230 (70.8)	199 (70.3)	31 (73.8)		
Marital status					
Married	250 (76.9)	238 (84.7)	12 (28.6)	98.663	0.000
Single/unmarried	25 (7.7)	14 (4.3)	11 (26.2)		
Divorced/separated	8 (2.5)	7 (2.5)	1 (2.4)		
Cohabiting	2 (0.6)	2 (0.7)	0 (0.0)		
Widow	40 (12.3)	22 (7.8)	18 (42.9)		
Educational status					
None	27 (8.3)	21 (7.5)	6 (14.3)	4.930	0.765
Completed primary	54 (16.6)	46 (16.4)	8 (19.0)		
Completed secondary	91 (28.0)	80 (28.1)	11 (26.2)		
Completed tertiary	79 (24.3)	69 (24.2)	10 (23.8)		
Quranic	74 (22.8)	67 (23.8)	7 (16.7)		
Residence					
Bida	180 (55.4)	162 (57.7)	18 (42.9)	9.102	0.168
Minna	52 (16.0)	46 (16.0)	6 (14.3)		
Other LG	87 (26.8)	71 (24.9)	16 (38.1)		
Other states	6 (1.8)	4 (1.4)	2 (4.8)		
Occupation					
Civil servants	66 (20.3)	58 (20.6)	8 (19.0)	25.133	0.121
Artisans	10 (3.1)	9 (3.2)	1 (2.4)		
Farmer	34 (10.5)	29 (10.3)	5 (11.9)		
Trader	137 (42.2)	118 (42.0)	19 (45.2)		
Driver	11 (3.4)	11 (3.9)	0 (0.0)		
Unemployed	39 (12.0)	37 (12.8)	2 (4.8)		
Student	19 (5.8)	14 (4.6)	5 (11.9)		
Armed forces	2 (0.6)	2 (0.7)	0 (0.0)		
Others	7 (2.1)	5 (1.8)	1 (2.4)		
Family income					
≤18000	135 (41.6)	119 (42.0)	2 (7.1)	1.822	0.610
18001-49999	137 (42.2)	116 (41.0)	32 (76.2)		
50000-99999	40 (12.3)	35 (12.4)	7 (16.7)		
≥100000	13 (4.0)	13 (4.6)	0 (0.0)		

36-45 years constitute 66.1% of the participants, while Islam is the predominant religion (70.5%). Majority of the respondents were married (76.9%) and the widows constitute another important group (12.3%). The participants were mostly literate with (68.9%) having one level of formal education or the other while Quranic education had (22.8%).

The participants also were mostly from Bida (55.4%), followed by other local Governments (26.8%). The major occupations were trading (42.2%), followed by civil servants (20.3%). The reported family income showed that most (83.8%) of the respondents were below the ₦50,000 ($137) per month income. The prevalence of disclosure was 87.0% as shown in Fig. 1.

The pattern of serostatus disclosure among respondents was according to data given in Table 2. In all cases of disclosures, disclosures are primarily to their spouses (100.0%), followed by female siblings (49.8%) and female parents (42.4%).

The main reasons for respondents disclosure is need for social support (48.8%) followed by concern for partner health (41.7%). Others are the need for economic support (28.3%) and severity for illness (15.5%).

The reported outcomes of disclosures indicated that majority of those who disclosed enjoyed increased social support (74.5%), followed by acceptance of the infected person (70.3%), while among those who received negative outcomes, 10.9% had stigmatization and this is closely followed by blame (10.2%).

In the multivariate logistic regression only marital status, being on HAART and Awareness of partner HIV status were predictors of serostatus disclosure as in Table 3.

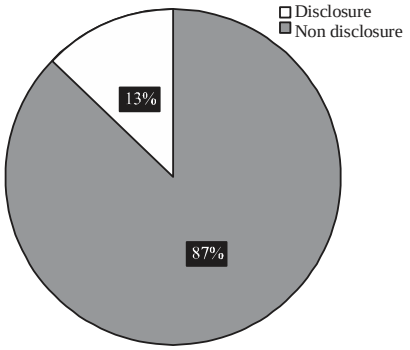

Fig. 1: Prevalence of disclosure of HIV status

Table 2: Pattern of serostatus disclosure among respondents (N = 283)

Persons disclosed to	Frequency (%)
Husband/wife	283 (100.0)
Parent (father/mother)	120 (42.4)
Sibling (brother/sister)	141 (49.8)
Close relations (uncle/aunt)	15 (5.3)
Priest (pastor/imam)	5 (1.8)
Close friends	9 (3.2)
What influenced respondents disclosure	
Concern for partner health	118 (41.7)
Severity of illness	44 (15.5)
Need for social support	138 (48.8)
Need for economic support	80 (28.3)
Fear of partner discovering being on HAART	6 (2.1)
Outcome of disclosure	
Increased social support	211 (74.5)
Acceptance	199 (70.3)
Kindness	156 (55.1)
Strengthening of relationship	149 (52.6)
Lessened anxiety and depression	118 (41.6)
Blame	29 (10.2)
Abandonment	25 (8.8)
Stigmatization	31 (10.9)
Physical violence	17 (6.0)
Disruption of family relationship	17 (6.0)

*Multiple responses

Table 3: Multivariate analysis of predictors of disclosure

Variables	Categories	OR	p-value
Age group	26-45	1.55 (0.30-0.68)	0.302
	16-25, >46	1.00	
Marital status	Married	0.08 (0.03-0.23)	*<0.001
	Single/divorced/separated/cohabiting/widow		
Number of sexual partners	1	0.96 (0.34-2.93)	0.941
	>1	1.00	
Type of sexual partner	Spouse	0.69 (0.20-2.38)	0.562
	Casual partner, sex worker, don't know	1.00	
On HAART	Yes	0.74 (0.00-0.01)	*0.018
	No		
Awareness of partner HIV status	Yes	0.15 (0.06-0.36)	*<0.001
	No	1.00	
Counseled on disclosure	Yes	1.38 (0.12-16.36)	0.798
	No	1.00	
Use of condom	Yes	0.65 (0.24-1.76)	0.398
	No	1.00	
Membership of support group	Yes	0.52 (0.13-2.18)	0.372
	No	1.00	
Perception of support received	Supportive	0.46 (0.20-1.10)	0.080
	Not supportive	1.00	

*Dependent variable: Disclosure of HIV to partner, OR: Odd ratio

Table 4 shows that majority of those that disclosed, have just one sexual partner (75.1%), who happened to be their spouse. In most cases (84.7%), with most of the relationship lasting more than 5 years (64.0%). Furthermore, the perception of the relationship with sexual partner before an HIV test was cordial in most cases (86.9%).

Few respondents actually know how they contacted HIV (28.3%), and this are mainly through sexual activity, followed by blood transfusion, accidental sharp object injection and IVDU.

Almost all of those respondents that disclosed have received and are still receiving ongoing counseling on need for disclosure to sexual partner (96.8%), and are aware of their partner status (77.7%) and are on HAART (67.7%). Similarly, a slightly higher proportion of respondents think use of condom also influenced their disclosure (50.2%). Majority of those that disclose are members of support groups already and perceived the support received as supportive (76.7%).

DISCUSSION

This study examined the prevalence, pattern and predictors of HIV serostatus disclosure to sex partners in a cohort of HIV positive clinic attendees.

The findings of a high rate of HIV serostatus disclosure among the participants is similar to a previous study by Olagbuji *et al.*[5], among ANC attendees in an urban centre, in Nigeria and another study among ANC women carried out at Mbarara Regional Referral centre in Uganda[1]. The reason for this similarity in spite of the differences in population sampled (i.e., adult male and female versus ANC women) is not immediately known. Perhaps some similarities of correlates exist which significantly swing the rate of disclosure to being high. For example, majority of the participants in present study were women (67.4%) and they may get adequate HIV related information that makes it easier for them to disclose their status (96.9% are receiving ongoing HIV counseling).

There were Nigerian studies that reported higher rate and those that reported lower rates. Among those that reported lower rates, is that carried out by Salami *et al.*[6] which unfortunately lies within the same zone as this study but with a prevalence of 39.5%, which is a far cry from our study. The difference might be related to low level of information concerning HIV among respondents at the time of the study. Other Nigerian workers with lower rates than present study include Amoran[7] , Adebayo *et al.*[8] and Titilope *et al.*[9] among others. However, among African studies with lower rates than our study is that carried out by Kiula *et al.*[19] in Tanzania, Erku *et al.*[17] in Ethiopia and Adeniyi *et al.*[15] in South Africa. The reasons for the low rates in their study compared to our study may be related to the differences in population sampled and differences in the socio-cultural context of those places.

Even though most Nigerian studies have lower rates than ours, Dankoli *et al.* study is among the few that reports higher rate than our study with a prevalence of 97.5% disclosure rate in the Eastern part of Nigeria[10]. Elsewhere, in Africa but by different workers in Ethiopia is a report of higher HIV serostatus disclosure by Seid *et al.*[20]

The data presented in Table 2 illustrated the rate of disclosure to sexual partners in this study is high compared to family members (i.e., parents, siblings and other extended relatives). In addition, those in married relationship are more likely to disclose to their spouses than those that are singles and especially when they know their partner serostatus. This agrees with other Nigerian workers[10]. HIV disclosure has been related mostly to specific people depending on the level of intimacy[2]. Similarly Adeniyi *et al.*[15] suggested that married persons had intimate and longer duration of relationship making it favourable to disclose status in a trusting relationship. This reason is also adduced for our own study. Furthermore, studies from other African climes suggest that as stigma and discrimination is high, rate of disclosure is lower, because people do not see reason to disclose.

Further analysis of this study showed that where disclosures were done to family members, it's done to female members (mothers, sisters, aunt and niece) compared to male family members (fathers, brother uncle and nephew). The reasons proffered for this observation is that female family members are more available to the sufferers of the disease, have listening ears and are more empathetic than the male counterpart.

Disclosure of serostatus is also done early within 6 months of diagnosis by majority of the participants. In fact as many as 52.7% of those that disclose, did that on the same day their status were known. This is commendable, if that is the true situation as this study is based on self-report and not corroborated by spouses/sexual partner. The literature reports that early disclosures have been associated with healthy attitudes/behavior that will ensure sexual partners do not get infected.

Findings from this study further showed that HIV serostatus disclosure is associated with age (26-45 years), being married and in a monogamous relationship. In addition, prior counseling, awareness of partner status, use of condom, membership of support group and perceived supportive reaction to disclosure.

The age 26-45 may be predisposed to disclose than younger or older ages because people in this age group are

Table 4: Sexual and relationship characteristics

Number of sexual partners	Frequency (%)	Sero-status disclosure		Chi-square	p-value
		Yes (283)	No (42)		
0 (widowed)	40 (12.3)	21 (7.4)	19 (45.2)	65.367	0.000
1	229 (70.5)	211 (75.1)	18 (42.9)		
2	46 (14.2)	41 (14.6)	5 (11.9)		
3	8 (2.5)	8 (2.8)	0 (0.0)		
4	2 (0.6)	2 (0.7)	0 (0.0)		
Type of sexual partner					
Spouse	258 (79.4)	238 (84.7)	20 (47.6)	74.564	0.000
Casual partner	24 (7.4)	18 (6.4)	6 (14.3)		
Sex worker	3 (0.9)	2 (0.7)	1 (2.4)		
Don't know	40 (12.3)	25 (8.2)	15 (35.7)		
Duration of relationship (years)					
≤4.99	95 (36.3)	85 (36.0)	10 (38.5)	1.421	0.701
5.00-9.99	51 (19.5)	47 (19.9)	4 (15.4)		
10-14.99	45 (17.2)	42 (17.8)	3 (11.5)		
≥15	71 (27.1)	62 (26.3)	9 (34.6)		
Relationship with partner before HIV test					
Cordial	276 (84.9)	245 (86.5)	31 (73.8)	6.197	0.185
Disagreement	40 (12.3)	30 (10.6)	10 (23.8)		
No special notice	9 (2.7)	8 (2.8)	1 (2.3)		
How HIV contacted					
Sexual activity	53 (16.3)	46 (16.2)	7 (16.6)	6.214	0.623
Blood transfusion	30 (9.2)	24 (8.4)	6 (14.2)		
IVDU	3 (0.9)	3 (1.0)	0 (0.0)		
Accidental injection	8 (2.5)	7 (2.4)	1 (2.3)		
Don't know	231 (71.1)	203 (71.7)	28 (66.6)		
Prior and ongoing counseling					
Yes	315 (96.9)	274 (96.8)	41 (97.6)	14.884	0.001
No	10 (3.1)	9 (3.2)	1 (2.4)		
Awareness of partner status					
Yes	233 (71.6)	220 (77.7)	13 (30.9)	108.326	0.000
No	92 (28.4)	63 (22.3)	29 (69.1)		
On HAART					
Yes	220 (67.7)	201 (71.0)	19 (45.2)	11.120	0.001
No	105 (32.3)	82 (29.0)	23 (54.8)		
Use of condom					
Yes	150 (46.2)	142 (50.2)	8 (19.0)	14.260	0.000
No	175 (53.8)	141 (49.8)	34 (81.0)		
Membership of support groups					
Yes	310 (95.3)	269 (95.0)	41 (97.6)	10.442	0.034
No	15 (4.7)	14 (5.0)	1 (2.4)		
Perception of support received					
Supportive	241 (74.2)	217 (76.7)	24 (57.1)	7.282	0.007
Not supportive	84 (25.8)	66 (23.3)	18 (42.9)		

expected to be and have longer duration of their relationship. This reason has also been suggested by other workers[19]. Other plausible explanation given by other workers is that older women are more likely to know how to start disclosure communication, assume equal power in the relationship and are of better socio-economic status. These reasons are also advanced in our study. However this finding is in contrast to a study by Sendo *et al.*[21], who reported higher disclosure among younger aged women.

Participants who knew their sexual partner status, being on HAART and associated prior counseling are associated with higher rate of disclosure. This is so, perhaps because they showed responsibility and a high level of commitment to their marriage since most of them are in monogamous relationship. On the other hand knowing one's partner status gives strength and courage to disclose one's own status. In addition, a person's ability to effectively prevent HIV transmission and acquisition is related to knowledge of personal and partner HIV status[10]. It is also possible that living with a sexual partner could afford women more opportunity to bring HIV testing discussion which might pave the way for subsequent disclosure of HIV serostatus. Sendo *et al.*[21]

asserted that prior discussion about testing and a smooth relationship are associated with HIV serostatus disclosure to partner.

Condom utilization by the respondents is rather low (46.2%) and only 46 (30.7%) of this used it at all times during sexual intercourse. Bringing to the fore that relationship exists between lack of disclosure and unsafe sexual behavior. This may put the couple at risk of infection by the virus for those who are HIV negative and re-infection by new strains and development of resistance for those who are HIV positive.

HIV disclosure to partners was more likely among married individual (OR = 0.08, 95% CI = 0.03-0.23, p<0.001), being on HAART (OR = 0.74, 95% CI = 0.00-0.01, p<0.018) and Awareness of partner HIV status (OR = 0.15, 95% CI = 0.06-0.36, p<0.001).

Those married were more likely to disclose than those who were single, divorced or separated (OR = 0.08, 95% CI = 0.03-0.23, p<0.001). This could possibly be because being married affords closer relationship than being single or widowed/separated. In addition, majority of the clients are in married relationship, with the relationship being cordial (86.5%) and have spent a longer time in relationships (84% being ≥5 years) and thus built trust over time resulting into a higher chance to have disclosed compared to the younger ones presented in Table 3. Also the women might think that disclosure can result in partner testing, treatment and a stronger relationship.

Furthermore, awareness of partner status and being on HAART are predictors because knowing HIV status of one's sexual partner gives strength and gives courage to disclose their own HIV status. In addition it has been suggested that a person's ability to effectively prevent HIV transmission and acquisition is supported by knowledge of personal and partner HIV sero-status[17]. This findings are similar to similar studies carried out at Ethiopia and Tanzania[17,19]. This may be because significant proportion of the study population are women. In fact the Tanzania study is entirely women. Women are also more likely to disclose than men, hence the finding.

CONCLUSION

The rate of disclosure of HIV sero-positive status to sexual partner is commendable. Strategies that will target those not likely to disclose will have to be evolved. Need to strengthen those likely to disclose (married, awareness of partner status and those on HAART) through programs that encourage them so that the present success can be sustained.

It is recommended that the HIV care program should target single, separated and widow disclosure Integration of HIV care services into tertiary schools program and establishment of special clinic for the widows is recommended.

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