Original Article

Factors Responsible for Disclosure of HIV Seropositivity among Residents of Cross River State, Nigeria

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Abstract

Context: Disclosure of HIV-positive status to sex partners is viewed as a preventive measure and as a social and legal responsibility for HIV-infected individuals. **Aims:** The aim of this study is to determine the proportions and factors responsible for disclosure of HIV seropositivity among residents of Cross River State, Nigeria. **Settings and Design:** This was a cross-sectional comparative study. **Subjects and Methods:** It involved 320 HIV-positive individuals equally selected from the urban and rural settings of Cross River State and use questionnaires. **Statistical Analysis Used:** Data analysis used SPSS version 20.0. Chi-square test and logistic regression were used to identify determinants of HIV status disclosure. **Results:** Among urban respondents, 93.8% had disclosed compared with 79.4% among rural respondents, the difference was statistically significant ($P < 0.001$). There was a statistically significant association between HIV status disclosure and age ($P = 0.008$), marital status ($P = 0.027$), number of nonspousal sexual partner ($P = 0.006$), and area of residence ($P < 0.001$). There was no statistically significant association between HIV status disclosure and gender ($P = 0.622$), between occupation ($P = 0.495$) or income ($P = 0.351$ and head of household ($P = 0.241$). There was statistically significant association between HIV status disclosure and level of education ($P = 0.015$), house ownership ($P = 0.008$), time from diagnosis ($P = 0.003$), and duration of treatment ($P = 0.002$). **Conclusions:** This study has shown that HIV seropositive status disclosure was higher when compared with other local studies, and age, marital status, and area of residence were factors associated with HIV seropositive status disclosure.

Keywords: Disclosure, HIV-positive serostatus, Nigeria, proportion

Introduction

Disclosure of HIV-positive status to sex partners is viewed as a social and legal responsibility for HIV-infected individuals.[1] Transmission of HIV is high where there is a high prevalence of nondisclosure and this can be as high as 86%.[2-5] Nondisclosure is more in developing countries and less in developed countries.[5]

Disclosure of HIV status is a planned and selective behavior which responds to the person's balance of potential risks and benefits of secrecy and disclosure.[6] It might also be considered to be an expression of responsibility toward a spouse or sex partners. Disclosure to others, lovers, family, or friends has been shown to be a potent stressor, as individuals living with HIV/AIDS might fear negative reactions such as blame, rejection, or violence.[7-9] However, researchers have documented that HIV-positive individuals experiencing stress who also disclose their positive status tend to feel better emotionally than those who do not disclose.[10]

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Disclosure may lead to provision of emotional and psychological support and could help sexual partners to undertake HIV testing and initiate early treatment if infected or adopt preventive measures.[11,12] Besides, disclosure to sexual partners may help couples to make informed reproductive health choices that may ultimately lead to prevention of maternal-to-child transmission.[13] Studies have shown that risk behaviors changed most dramatically among couples where both partners are aware of their HIV status.[14,15]

Disclosure may also be harmful and may result in loss of economic support, blame, abandonment, physical and emotional abuse, discrimination, and disruption of family relationships.[16]

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The disclosure of positive serostatus by HIV-positive individuals varies with certain variables which include age, socioeconomic status, level of education, marital status, social relations, knowledge, cultural factors, and knowledge regarding the importance of HIV disclosure.[17] An earlier study showed that those from a monogamous family type, married, and educated were more likely to disclose their serostatus to their partners while the gender of the participants was not significantly associated with disclosure.[18]

In view of the crucial roles that HIV disclosure plays on HIV prevention in general, this study will contribute to filling the existing knowledge gap and indicates proper intervention measures for promoting disclosure in urban and rural areas. This will in turn, hopefully reduce the spread and transmission of HIV in Cross River State. This study will also help policymakers develop culturally appropriate counseling tools to identify individuals least likely to disclose in urban and rural areas and counsel them accordingly.

The aim of this study is to assess and compare level of disclosure of HIV serostatus and its associated factors among HIV-positive individuals in urban and rural areas of Cross River State.

The authors started with the hypothesis that there is no statistically significant difference in disclosure of HIV-positive status between rural and urban residents of Cross River State, Nigeria.

Subjects and Methods

This was a cross-sectional study of HIV-positive status disclosure carried out in 2 local government areas (LGAs) in Cross River State from June 10, 2014 to September 30, 2014 using interviewer-administered semi-structured questionnaire. Ethical clearance was obtained from the Research Ethics Committee of the University of Calabar Teaching Hospital, and Cross River State Ministry of Health Ethics Committees with approval number UCTH/HREC/33/197. Informed consent was also obtained from the respondents.

Study setting

This study was carried out in two HIV treatment health facilities, one located in Calabar Municipality and another located in Akpabuyo LGA.

Calabar Municipality lies between latitude 04° 15[1] and 5° North and longitude 08° 25[1].

This study was carried out at the Special Treatment Clinic, formerly called the President's Emergency Plan for AIDS Relief (PEPFAR) clinic of the UCTH, Calabar Municipality (urban) and St. Joseph Hospital, Akpabuyo LGA (rural).

In the urban study site, the patient load is about 4500/year, of which about 2,000 are on treatment while in the rural study location, the patient load is about 1600/year with over 400 on treatment.

This study included all HIV-positive individuals aged 18 years and above receiving HAART from the selected health facilities in urban and rural areas of Cross River State.

The sample size was determined using the formula for comparing two independent groups.[19]

$$n = \frac{\left\{Z_{\beta}\sqrt{[P_1(1-P_1)+P_2(1-P_2)]}+Z_{\alpha}\sqrt{\left[2P(1-P)\right]}\right\}^2}{(P_2-P_1)^2}$$

To take care of nonresponse, the sample size was rounded up to160 for each arm, making a total of 320 for both arms.

A multistage sampling technique was used to select the study participants. In stage 1, simple random sampling technique was used in the first stage to select the LGAs where the study was carried out. All the LGAs with HIV diagnosis and treatment center obtained from the Cross River State agency for the control of AIDS were stratified into rural and urban LGAs based on CRS public health classification. According to the Cross River State Planning Commission, out of the 18 LGAs in Cross River State, five are urban (Calabar Municipality, Calabar South, Ikom, Obudu, and Ogoja), two are semi-urban (Akamkpa and Yakurr), and eleven are rural (Abi, Akpabuyo, Bakassi, Bekwara, Biase, Boki, Etung, Obanliku, Obubra, Odukpani, and Yala). One LGA was selected from each stratum using simple random sampling technique (balloting): all the five urban LGAs were numbered serially from 1 to 5 on 5 pieces of papers of equal size which were folded and shuffled. One was drawn out and noted to be Calabar Municipality. For the rural site, all the eleven rural LGAs were numbered serially from 1 to 11 on 11 pieces of papers of equal size which were folded and shuffled. One was drawn out and noted to be Akpabuyo LGA. In stage 2, purposive sampling technique was used to select the health facilities (one in Calabar Municipality and one in Akpabuyo LGA). The Special Treatment Clinic at the University of Calabar Teaching Hospital (formerly called PEPFAR clinic) was purposively chosen as the urban study site because it is the only comprehensive site for HIV treatment services in Calabar Municipality whereas St. Joseph Hospital, Akpabuyo, was selected purposively as the study site for rural because it is the only comprehensive center for HIV/AIDS services in Akpabuyo LGA. Other health facilities only carry out screening test for HIV. Those found to be positive are referred to this comprehensive center for HIV confirmation and treatment services. In stage 3, total sampling of HIV-positive individuals that attended the clinics at the study facilities was done on every clinic day (Tuesdays and Thursdays for the urban site and Wednesdays for the rural site). All those who met the inclusion criteria were identified and those that gave informed consent were recruited into the study until a total of 160 respondents were enrolled from the urban site and another 160 enrolled from the rural site, giving a total of 320 respondents that participated in the study from both study areas.

Information was retrieved from the clients by research assistants using questionnaires.

Two research assistants were trained to assist in administering the questionnaire and given some HIV technical update. The research assistants were supervised by the principal investigator after the training to ensure that the questionnaires were properly administered.

The questionnaires were pretested for validity and content clarity.

Completed questionnaires were manually sorted out, serially numbered, and coded before entry and cleaned following entry into the computer for statistical analysis using SPSS version 20.0 (SPSS Inc. Il, Chicago, USA).[20] Data analysis was done using descriptive statistics (frequency, proportions, means and standard deviation) to summarize variables. Inferential statistics (Chi-square, to test the significance of association between two categorical variables) were used to test for significance at 5% level of significance. Variables were subjected to multiple logistic regression analysis to identify the true determinants of disclosure of HIV serostatus. Determinants were also at 5% level of significance.

Table 1: Bivariate analysis between respondents' sociodemographic/family characteristics and HIV status disclosure in urban and rural areas

Variable	Disclosed 277 (%)	Not disclosed 43 (%)	*P* Value
Age (years)			
≤35	129 (81.1)	30 (18.9)	0.008*
>35	148 (91.9)	13 (8.1)	
Marital status			
Single	52 (85.2)	9 (14.8)	0.027*
Cohabiting	20 (69.0)	9 (31.0)	
Married	130 (89.0)	16 (11.0)	
Separated	5 (83.3)	1 (16.7)	
Divorced	13 (76.5)	4 (23.5)	
Widowed	57 (93.4)	4 (6.6)	
Household size			
≤5	166 (82.6)	35 (17.4)	0.011*
>5	111 (93.3)	8 (6.7)	
Number of sexual partners			
Nil	204 (90.3)	22 (9.7)	0.006*
1	65 (76.5)	20 (23.5)	
≥2	8 (88.9)	1 (11.1)	
Area of residence			
Urban	150 (93.8)	10 (6.2)	<0.001*
Rural	127 (79.4)	33 (20.6)	
Level of education			
None	22 (71.0)	9 (29.0)	0.015*
Primary	114 (87.0)	17 (13.0)	
Secondary	92 (86.0)	15 (14.0)	
Tertiary	49 (96.1)	2 (3.9)	
House ownership			
Personal	103 (92.8)	8 (7.2)	0.008*
Rented	161 (84.7)	29 (15.3)	
Others**	13 (68.4)	6 (31.6)	
Duration since diagnosis (months)			
<24	85 (78.7)	23 (21.3)	0.003*
≥24	192 (90.6)	20 (9.4)	
Duration of treatment (months)			
<24	99 (79.2)	26 (20.8)	0.002*
≥24	178 (91.3)	17 (8.7)	

*Statistically significant; #Others include father, mother, biological relative, brother-in-law, Others include pensioner, student, and applicant; **Others includes squatting, family house, and church premises. *P* values are based on Chi-square test

Results

As shown in Table 1, 93.8% had disclosed compared with 79.4% among rural respondents, the difference was statistically significant ($P < 0.001$) and this showed a strong positive correlation with age and marital status. There was statistically significant association between HIV status disclosure and level of education ($P = 0.015$), house ownership ($P = 0.008$), time from diagnosis ($P = 0.003$), and duration of treatment ($P = 0.002$). There was no statistically significant association between HIV status disclosure and gender ($P = 0.622$), between occupation ($P = 0.495$) or income ($P = 0.351$) and head of household ($P = 0.241$).

Discussion

The proportions of HIV-positive disclosure in the present study were 93.8% (urban) and 79.4% (rural). These are very high when compared with 50.9%[18] or 27%–69%[21] reported in other African settings. These high proportions of disclosure are comparable to those reported from some developed countries.[22] Sagay *et al*. similarly reported a high disclosure rate among pregnant HIV-positive women in Jos, Nigeria,[13] and another study from Ethiopia reported a rate of 94.5%.[23] The higher rate of disclosure in this study may be attributed to the ongoing disclosure and adherence counseling in the ART clinics in the study areas. Therefore, the assertion that nondisclosure is more in developing countries compared with developed countries[5] may as well be changing. The reason may be that as more people are getting educated, stigmatization of HIV infection is likely to reduce and disclosure is likely to increase with effective peer counseling even in Africa.

The present study reports statistically significant associations between HIV status disclosure, age, marital status, number of nonspousal sexual partner, and area of residence. This compares with the result of a previous study that reported significant correlation between disclosure, age, and marital status.[18] Therefore, the older the clients were, the better they were with disclosure and the married clients were also more likely to disclose their HIV-positive status than the unmarried ones. Contrary to these findings, however, some authors have reported that younger women were more likely to disclose their HIV status.[18] The reason for this contrast could be because the present study was conducted in the South-South geopolitical region of Nigeria where women are more likely to

be married at an older age. As in another study, HIV-positive women are less likely to disclose their status to their partners if they were involved in multiple nonspousal relationships.[12] Furthermore, as in a previous study,[18] the present study showed no statistically significant association between HIV status disclosure and gender. Other studies, however, showed gender-related differences in disclosure;[24] while females were more likely to disclose their status than their male partners in some studies,[25] the males are more likely to disclose in another study.[26] Concerning disclosure by area of residence, the present study reported that those who lived in an urban setting were more likely to disclose their HIV-positive status than those in a rural setting. This is in concordance with a study in Zimbabwe which found that HIV-positive individuals who lived in rural settings were two times less likely to disclose their HIV status compared to those who lived in urban settings.[27] Community efforts at education and destigmatization of HIV infection should be improved to increase the proportion of HIV-positive disclosure in the rural setting.

The present study has also shown statistically significant positive association between HIV status disclosure and level of education. This is similar to previous reports that women with higher education are more likely to disclose their result to their sexual partner than women who are illiterate.[27] As in previous studies,[28,29] the authors have similarly reported that time of HIV diagnosis significantly influenced HIV disclosure to partners and women. This is because it really takes sometimes to overcome the discouragements associated with the news of ones HIV-positive status and summon courage to disclose it to others whose responses to the news may not be predictable. There is, however, no statistically significant association between HIV status disclosure and occupation. In another study, some authors reported the contrary.[24] Deribe *et al*., however, agree with the present study that income has no association with disclosure.[24]

There are two limitations to this study. One, studying disclosure at one point in time may not be very objective since disclosure is a process that may require several steps. Two, the study relied mainly on the information that were given by respondents and therefore, depended on how truthful they were. Nonresponse by some respondents was noticed as some would not want to respond to some questions. However, this was taken care of by interviewing them privately and by constantly reassuring them of strict confidentiality and that information that could be traced back to them will not be collected.

Conclusions

This study has shown that HIV seropositive status disclosure was higher when compared with other local studies, and age, marital status, and area of residence were factors associated with HIV seropositive status disclosure. Further studies are necessary to investigate other predictors and reasons for disclosure in this population.

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Conflicts of interest

There are no conflicts of interest.

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