

Profile of HIV voluntary counseling and testing seropositive acceptors in Niger-Delta, Nigeria

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Abstract

Sub-Saharan Africa is most heavily affected by human immunodeficiency virus (HIV) infection worldwide. The infection is more commonly observed amongst vulnerable populations. The objective was to determine the profile of seropositive acceptors of HIV voluntary counseling and testing in Niger-Delta, Nigeria. Medical records of voluntary counseling and testing (VCT) acceptors at the Sacred Heart Hospital Obudu, Cross-River State, Nigeria, from January to July 2010 were reviewed. HIV antibody screening was done using two rapid ELISA tests. A total of 1269 VCT acceptors were screened for HIV antibodies out of which 134 (10.6%) tested positive. The age group 20-29 year old was more affected (41.0%). Average age of seropositive acceptors was however 31.21±8.8 years. Most of them 80 (59.7%) were females, married 61 (45.5%) and either had none or low level of formal education (61.2%). Traders constituted 25.4%, students 24.6%, farmers 20.9% among others. More females were married than the males (50.0% vs 38.9%) ($P>0.05$). There were more educated females than males ($P>0.05$). Those who had formal education were more likely to be either gainfully employed or seeking for one ($P<0.001$). HIV positivity was observed mostly among married, female adolescence/young adult with either none or low level of formal education and engaged in commercial activities. Sustaining efforts towards women education, economic empowerment, and gender equity, modification of risky social lifestyle and VCT for HIV will be helpful in reducing HIV infection among the vulnerable groups.

Introduction

Human immunodeficiency virus (HIV) infection is a global public health problem. The

number of people living with HIV worldwide continues to grow in 2008, reaching an estimated 33.4 million. The total number of people living with the virus in 2008 was more than 20% higher than the number in the year 2000, and the prevalence was roughly three fold higher than the figure in 1990.¹

Sub-Saharan Africa remains the region most heavily affected by HIV world wide; accounting for two thirds (67%) of all people living with the virus and for three quarters (75%) of AIDS deaths in 2007. An estimated 1.9 million people were newly infected with HIV in Sub-Saharan Africa in 2007, bringing to 22 million the number of people living with the virus.²

Nigeria reported her first case of HIV/AIDS in a 13-year-old girl in 1996. Since then the number of people living with HIV or AIDS steadily increased and the epidemic moved in a generalized state.³ A lot of intervention measures have been adopted to halt the spread of the infection by the Federal Government of Nigeria and international organizations such as global fund, UNDP, DFID, USAID, etc.

Voluntary counseling and testing (VCT) has been adopted as one of the many strategies of preventing the spread of HIV. VCT is a process by which an individual undergoes counseling enabling him or her to make an informed choice about being tested for HIV. This decision must be entirely the choice of the individual and he or she must be assured that the process will be confidential.⁴ HIV counseling and testing has been shown to have a role in both HIV infection prevention for people that are not infected and those with HIV infection, as an entry point to care. VCT provides people with an opportunity to learn and accept their

HIV sero-status in a confidential environment. With counseling, people who test positive can benefit from emotional support and early appropriate medical care to treat or prevent HIV associated diseases.⁵ Knowledge of HIV sero-status can also help people to make decisions to prevent themselves and their sexual partners from further re-exposure and re-infection. In addition, pregnant women who are aware of their seropositive status can be offered services aimed at preventing transmission of the infection to their infants. A recent study has indicated that VCT may be a relatively cost effective intervention in preventing HIV transmission.⁵ In several countries of Sub-Saharan Africa, HIV infection and AIDS are more commonly encountered amongst vulnerable populations. These include; individuals who are poor, uneducated and hence powerless. They have limited understanding of the disease and much more limited insight into their problem.⁶ Women especially younger ladies, widows, urban dwellers and those involved in commercial activities constitute

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part of the vulnerable group.⁵⁻⁷

The main research pattern for HIV/AIDS in Africa is epidemiological research.⁸ This focuses on finding out the distribution and determinants of HIV/AIDS identity amongst other things, cluster areas of high HIV/AIDS epidemics, vulnerability of youths and women, and the very high susceptibility of commercial sex workers, long distance drivers and drug addicts.

These research findings including those focusing on the sexual behaviors of these vulnerable groups will unequivocally aid any action plan on HIV/AIDS combat.⁹ This study was therefore designed to assess the profile of seropositive acceptors of HIV voluntary counseling and testing in Niger-Delta, Nigeria. Recommendations from the research will go along way to help stakeholders within the region and in the country in general in their efforts to combat the spread of HIV/AIDS.

Materials and Methods

Study design/setting

This was a retrospective study in which medical records of VCT acceptors at the Sacred Heart Hospital Obudu, Cross River State, Nigeria from January to July 2010 were reviewed. The hospital offers primary to secondary level of health care to the urban com-

munity of Obudu local government area (LGA) as well as to neighboring LGAs of the State. The LGA was home to the popular Obudu cattle ranch prior to the creation of Obanlikwu LGA. The people of the area are engaged in commercial activities and farming. There are a lot of schools within the area. These include the school of Nursing/Midwifery and Federal College of Education, which shares boundary with the hospital.

Serology

HIV counseling and testing were performed by trained counselors. The testing for HIV antibodies in sera of acceptors was carried out by laboratory technologists. After pre-test counseling, 5 mL of blood was taken from the ante-cubital fossae and code labelled to ensure confidentiality. Sera obtained after centrifugation were analyzed for antibodies to HIV within 1 h after collection. HIV test was carried out using determine HIV-1/2 (Abbott Laboratories, Abbott Park, IL, USA) and Uni-gold HIV-1/2 (Trinity Biotech PLC, Jamestown, NY, USA) test kits, while Stat-pak HIV-1/2 (Chembio Diagnostic Systems Inc., Medford, NY, USA) test kit was used as a tie breaker for sero-discordant results according to the manufacturer's instructions. The ELISA test was carried in a parallel form where two rapid tests were done simultaneously. A client was considered positive if two rapid tests appear positive else a tiebreaker was used to confirm positivity. All clients were post-test counseled and only those positive for HIV antibodies were enrolled into the adult HIV antiretroviral programme.

Data

Data collected included initials, age, occupation, educational level, marital status, sex, and religion. The data was analyzed using Epi Info statistical software version 3.2.2 (CDC, Atlanta, GA, USA). χ^2 was used as a test of statistics. P value of ≤ 0.05 at 95% confidence interval was considered statistically significant.

Results

A total of 1269 VCT acceptors were screened for HIV antibodies out of which 134 (10.6%) tested positive. The average age of seropositive acceptors was 31.21 ± 8.8 years. The age group 20-29 years old was mostly affected (41.0%). Most of the seropositive acceptors 80 (59.7%) were females, while 54 (40.3%) were males. Married clients were 45.5%, singles 34.3%, separated 11.9% among others. Nine point seven percent (9.7%) had no formal education, 14.2% primary, 37.3% secondary and 38.8% post-secondary. Traders constituted 25.4%, students 24.6%, farmers 20.9%, civil servants 11.9%,

applicants 6.0%, and others 11.2% (Table 1). There were more female adolescence and young female adults than males ($P=0.08$) Table 2. More females (50.0%) were married than males (38.9%) ($P=0.21$) Table 3. Those who had formal education were more likely to be either gainfully employed or seeking for gainful employment ($P<0.001$) (Table 4).

Discussion

In this study, the overall HIV sero-prevalence rate is 10.6%. This is comparable to the 10.0% reported for Calabar, Cross River state capital, in the 2008 National HIV sero-prevalence sentinel survey among pregnant women attending

Table 1. Socio-demographic characteristics of seropositive acceptors of voluntary counseling and testing.

Characteristics n=134	Frequency (f) 100.0	Percentage (%)
Age group (years)		
≤19	9	6.7
20-29	55	41.0
30-39	44	32.8
40-49	17	12.7
50-59	8	6.0
60-69	1	0.7
Marital status		
Divorced	6	4.5
Married	61	45.5
Separated	16	11.9
Single	46	34.3
Widowed	5	3.7
Gender		
Male	54	40.3
Female	80	59.7
Educational level		
None	13	9.7
Primary	19	14.2
Secondary	50	37.3
Post-secondary	52	38.8
Occupation		
Applicant	8	6.0
Civil servant	16	11.9
Farming	28	20.9
Schooling	33	24.6
Trading	34	25.4
Others	15	11.2

Table 2. Relationship between gender and age group of seropositive clients.

Gender	Age group (year)						Total	Statistics
	≤19	20-29	30-39	40-49	50-59	≥60		
Females	8 (88.9)	34 (61.8)	28 (63.6)	6 (35.3)	4 (50.0)	0 (0)	80 (59.7)	$\chi^2=9.58$
Males	1 (11.1)	21 (38.2)	16 (36.4)	11 (64.7)	4 (50.0)	1 (100.0)	54 (40.3)	df=5
Total	9 (100)	55 (100)	44 (100)	17 (100)	8 (100)	1 (100)	134 (100)	P=0.08

df, degree of freedom.

Table 3. Relationship between gender and marital status of seropositive clients.

Gender	Divorce (%)	Married (%)	Separated (%)	Single (%)	Widowed (%)	Total	Statistics
Female	1 (1.3)	40 (50.0)	10 (12.5)	26 (32.5)	3 (3.8)	80 (100.0)	$\chi^2=5.73$
Males	5 (9.3)	21 (38.9)	6 (11.1)	20 (37.0)	2 (3.7)	54 (100.0)	df=4
Total	6 (4.5)	61 (45.5)	16 (11.9)	46 (34.3)	5 (3.7)	134 (100.0)	P=0.21

df, degree of freedom.

Table 4. Relationship between education and occupation of seropositive clients.

Education	Applicants	Civil servants	Farming	Occupation Schooling	Trading	Others	Total	Statistics
None	-	-	12 (42.9)	-	1 (2.9)	-	13 (9.7)	$\chi^2=108.56$
Primary	-	-	10 (37.7)	-	5 (14.7)	4 (26.7)	19 (14.2)	df=15
Secondary	1 (12.5)	3 (18.8)	6 (21.4)	10 (30.3)	21 (61.8)	9 (60.0)	50 (37.3)	P<0.001
Post-secondary	7 (87.5)	13 (81.2)	-	23 (69.7)	7 (20.6)	2 (13.3)	52 (38.8)	
Total	8 (100.0)	16 (100.0)	28 (100.0)	33 (100.0)	34 (100.0)	15 (100.0)	134 (100.0)	

df, degree of freedom.

antenatal clinics in Nigeria.¹⁰ It is however higher than the median value of 8.0% for the state.¹⁰ This difference could be due to the fact that the prevalence in our study was determined in the general population, unlike that of the national survey which was reported in the obstetric population that is expected to be a relatively low risk group. It is however far higher than the national average of 4.6%¹⁰ which is not totally unexpected. This high sero-prevalence rate could be explained by the high level of poverty and socialization through diverse cultural and economic activities or practices that promote risky social lifestyle among the people within the area. The area is noted for its tourist attraction not only in Nigeria but internationally. The Obudu cattle ranch mountain race for instance is a yearly international event.

Adolescence and young people particularly the 20-29 year old were more affected. This is similar to the findings of the 2008 National HIV sero-prevalence sentinel survey and that of several other studies in other parts of Africa.¹⁰⁻¹² In many African countries, 70% of HIV infection are said to be as a result of heterosexual transmission and more than 60% of all new HIV infection are among the 15-24 year old.¹¹⁻¹⁷ This could be due to the erosion of the traditional African values with the neglect of chastity and acceptance of western culture that permits a liberalized attitude to sex.^{11,12}

Another finding is the female dominance of the vulnerable group. This is similar to findings of studies done in all regions worldwide. Women are found to be increasingly affected and majorities are within the reproductive age group.^{10,12,18,19} We found that female teenagers and young women were more likely to be affected than their male counterparts. The vulnerability of women particularly young girls is due to biological, immunological, socio-economic and gender inequality issues. Also older men who are more sexually experienced and exposed prefer young girls compared to older women as sexual partners.^{11,14,20}

There might have been more females who accepted to carry out the HIV test compare to their male counterpart because of the domineering nature of men in the African setting which compels the woman to accept HIV test-

ing. The desire to know their status in order to prepare for childbearing could have also been contributory. Unlike findings of other studies, married rather than single people were more infected with HIV. There were more married females compared with males. This is not surprising considering the African culture where females marry earlier than their male counterparts.¹⁸ It has been reported that, more than 25% of women in the poorest regions of the world have had a child by age 18.¹⁹

The involvement of young women within the reproductive age group is a matter of concern considering the possibility of increase infant HIV infection. It has been estimated that about 10% of all new HIV infections are in the pediatric age group and over 90% of these are acquired through mother-to-child transmission.^{21,22} Therefore, offering family planning to HIV-infected individuals or those at risk of the infection can prevent unintended pregnancies and thus preventing mother to child transmission of HIV.

Although more seropositive acceptors had post-secondary (38.8%) level of education; the overall majority had either none or low level of formal education (61.2%). The females were more educated than the males. This may be in support of the claim that there is now a narrowing of the gap between boys and girls school enrollments. Girl's enrollment is said to have risen throughout the developing world since 1990. This claim notwithstanding, girls still face enrollment gap in parts of south Asia, western Asia and Sub-Saharan Africa.¹⁹

The prevalence of traders, students, civil servants, applicants and farmers suggest that risky social lifestyles and economic reasons could have been responsible for acquisition of the HIV infection. Commercial sex, long distance/taxi drivers, motorcyclist and lack of employment opportunities have all been found to be known risk factors to HIV infection.^{11,12}

Several studies done in different parts of Sub-Saharan Africa had shown that specific education programmes that transmit information on HIV/AIDS to adolescence and young adults in institutions of learning could be useful in reducing HIV/AIDS.²³⁻²⁷ We recommend the adoption of school-based reproductive health curriculum that includes information

on sexually transmitted diseases, HIV/AIDS, Reproductive biology, sexuality and contraception. Gender inequality, poverty, less access to education and lack of employment opportunities which are key issues the UN Millennium Development Goal seek to address should be aggressively tackled by all stake holders in developing nations. Campaigns aimed at promoting abstinence and safer social lifestyles amongst the vulnerable groups should be sustained. Most information on HIV/AIDS is disseminated through radio, TV, newspapers and books which are not readily available in rural areas.²⁸ We advocate a contextualized campaign strategy involving community, religious and traditional leaders. The engagement of young people in counseling, enlightenment campaigns and modification of risky sexual behavioral strategies should be sustained in order to help them become active participants in shaping their future.

The value of voluntary counseling and testing for HIV in contributing to the reduction of HIV transmission has been demonstrated by some studies.²⁹ We therefore advocate that VCT for HIV be sustained and VCT centers should not only be sited in urban areas but also in the rural communities.

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