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HIV/AIDS Prevention Services in Sagamu, Nigeria: An Analysis of the Sexual Behaviour of HIV Counseling and Testing Clients

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Abstract: HIV/AIDS has been a major developmental issue all over the world particularly in Asia and sub-Saharan Africa. In Nigeria, there was a steady decline in the sero-prevalence of the infection in the last few years. Sexual transmission of HIV remains a major problem in Nigeria and other West African countries. This study therefore considers the sexual health characteristics of clients accessing HIV counseling and testing services at Olabisi Onabanjo University Teaching Hospital between May 1st 2008 and April 30th 2010.Clients' records were reviewed and analyzed using SPSS 10.0. 76.5% (1827) of clients did not use condom in the last sex and 13.6% (323) had more than one sexual partner. 14.7% (334) of the clients had a history of previous sexually transmitted infection. 35.0% (117) of the clients who have had previous history of sexually transmitted infections were HIV positive. Previous history of STIs was found to be associated with increased HIV prevalence (p is 0.00, p is less than 0.05).Behavior change communication must be intensified to achieve sustainable public enlightenment and attitudinal change as regards sexual risk taking, in relation to HIV/AIDS. Provision of comprehensive sexual health services are needed to reduce the burden of HIV infection in developing countries.

Key words: Sexual Behaviour % Sexually Transmitted Infections % HCT Services % HIV Sero-Prevalence

INTRODUCTION

HIV/AIDS has remained a topical issue in the global health community in the last two decades. It has reversed the gains of many years in several countries particularly those of the developing world. Sub-Saharan Africa has been worst hit by the HIV pandemic in the last few decades, with far-reaching consequences. The region accounts for over two-thirds (67%) of all people living with HIV and nearly three-quarters of AIDS-related deaths all over the world [1, 2] This situation has not aided sustainable development in virtually all aspects of life, in a region plagued by a double burden of communicable and non-communicable disease.

In Nigeria, there was a progressive increase in the prevalence of HIV infection until the year 2001 after which there was a steady decline in its prevalence [3-7]. Several studies and documents showed higher level of infection for females than males and for young people if compared with the older population, which has great economic and social consequences [4, 8-15].

In sub-Saharan Africa, women have been noted to be more vulnerable to HIV infection due to the socio-economic and cultural circumstances in which they find themselves amongst other factors[16-18].

HIV Counseling and testing (HCT) has been identified as a good entry point into the prevention, treatment, care and support cycle for people infected and affected by HIV/AIDS. It is a key preventive strategy and offers great opportunity for the dissemination of factual information concerning HIV prevention and treatment [19-26].

HCT has been advocated as a cost-effective mechanism for the reduction of the burden of HIV/AIDS

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on the fragile health systems of developing countries. It is particularly recommended for promotion among sexually active youth population in sub-Saharan Africa [25, 27-30].

HIV infection in sub-Saharan Africa has been mainly linked to heterosexual transmission [31]. Many young people are engaged in unprotected sexual intercourse often times with multiple sexual partners. Adolescence and youth are well known periods for sexual risk taking [32-36] Studies have shown males to take more sexual health risks than females including earlier onset of sexual intercourse and multiple sexual partners [37, 38].

While several contribute to the HIV epidemic in sub-Saharan Africa, behavioural factors have been identified as major contributors to the transmission of HIV infection, including indiscriminate and unprotected sexual intercourse, presence of other sexually-transmitted infections, transactional sex and male circumcision [39]. It is also a well known fact that the risk of HIV infection increases with the practice of unprotected sexual intercourse. The trend of its transmission in sub-Saharan Africa is also intimately related to the sexual behavior of the population and as such the thrust of HIV prevention programmes has been on safer sexual practices. There has also been an association in the decline of HIV prevalence and changes in sexual behaviour [40].

HIV prevention and control programmes thus helps identify these characteristics and designs appropriate interventions based on these trends directly providing solutions to change aspects that increase vulnerability not only in target individuals but also contexts that promote them [39]. HCT services while providing access as a critical entry point for HIV diagnosis and treatment, also acts a means of prevention, by promoting safer sex practices [41].

The importance of a significant reduction in the proportion of new infections among newborns, children and adults, has been effectively captured in the Millennium Development Goals.

In line with the coordinated global efforts at reducing the burden of new HIV infections all over the world and more so in developing countries, like Nigeria, the study assessed the sexual behavior and other sexual health characteristics of clients accessing the voluntary counseling and testing services in the community medicine HCT site. While other tools exist in the control of HIV, It is thus pertinent to utilize HCT completely as a tool for HIV control by analyzing and interpreting data obtained from clients accessing these services with regards to their sexual behavior such that the findings obtained if significant can be applied appropriately in designing schemes for intervention where applicable.

MATERIALS AND METHODS

Sagamu where the study was conducted is a semi-urban town situated in Sagamu local government area of Ogun state, in the diversely populated south-western region of Nigeria. It is mainly populated by the Yoruba ethnic group with a few other ethnic populations particularly the Hausa and Ibo. Olabisi Onabanjo university teaching hospital is located in the heart of the town and numerous primary health centres as well as private hospitals are present. The Department of Community Medicine hosts the HCT site in the teaching hospital. A retrospective study of the sexual health characteristics of clients accessing HCT services between May 1st 2008 and April 30th 2010 in the Department of Community Medicine and Primary Care, Olabisi Onabanjo University Teaching Hospital was carried out.

Information was retrieved by trained research assistants using client intake forms similar to those used in previous studies.[42, 43] Incomplete records were not used. Data was analyzed using SPSS 10.0. All clients studied had previously undergone pre- and post-test counseling with relevant referrals made.

HIV screening was done using rapid test kits-Stat Pak HIV ½ (manufactured by ChemBio Diagnostic Systems Inc. New York, USA lot no 44032411), Determine (lot no 14019K100), Unigold (manufactured by Trinity Biotech Plc. Ireland, lot no T159018) and Double gold. The test was carried out on blood collected via finger-prick using a sterile lancet. Controls for the test were obtained from the central hospital laboratory for specificity and sensitivity. A positive or negative result must be obtained from a minimum of two separate kits.

Ethical approval for the study was granted by the institutional ethical committee of the teaching hospital. Strict confidentiality with regards to patient's records was ensured.

Findings

Age and Sex Distribution: A total of 2607 clients accessed our HCT services within this period. The clients were between the ages of 1 year and 90 years. The mean age was 33.3±15.26. The median age was found to be 32.0 years, with the modal age being 30.0 years.

The distribution by age group of clients were as follows: = 4 years, 4.0% (105), 5-9years 2.9%(76), 10-14 years 2.2% (57), 15-19 years 3.9%(101), 20-24 years 11.7% (304), 25-29 years 17.9% (466), 30-34years 15.2% (397), 35-39 years 12.3% (321), 40-44 years 9.7% (253), 45-49 years 6.8% (177), 50-54 years 4.6% (120), 55-59 years 2.3% (61), 60-64 years 2.5% (65) and = 65 years, 4.0% (104).

More females than males accessed this HCT site for the period under study, 54.7% (1425) were females while 45.3% (1182) were males.

History of previous/ past HIV test: 63.5% (1637) of the respondents have not had a previous HIV test. 36.4% (940) have had a HIV test done in the past or previously. 13.4% (346) tested HIV positive, 21.4% (552) tested HIV negative, 0.3% (9) had indeterminate results while 1.1 % (29) did not receive the results, 0.2% (4) cited other reasons.

Client Responses to Ever Had Sex?: 82.3% (1594) of the respondents have had previous sexual experience while 17.7% (343) have not.

Past History of STI among Clients: 78.3% (1779) did not have a previous history of STIs, 14.7% (334) of the respondents had a past history of STIs, while 5.1% (116) did not know whether or not they have had STIs in the past.

Use of Condoms in the Last 3 Months: 61.2% (1459) never used a condom, 8.1% (192) always used a condom, 18.9% (450) used a condom sometimes and 11.8% (282) did not have sex in the last 3 months.

Condom Use in Last Sex: Based on the responses by the clients on whether they used a condom during their last sex:

16.9% (405) used a condom during their last sex, 76.5% (1827) did not use a condom, 0.6% (15) of the respondents cannot remember whether or not they used a condom.

Number of Sexual Partners in the Last 3 Months: 28.3% (677) had no sexual partners, 58.1% (1385) had one sexual partner, 9.4% (224) had two sexual partners and 2.7% (64) had three, while 1.5% (35) had four or more sexual partners.

Sensitization of Partners for HIV Test: 93.9% (1589) of the clients planned to sensitize their partners for testing while 6.1% (103) did not.

Number of Sexual Partners in the Last 3 Months and HIV Result: More clients who had single sexual partners 936 (81.9%) and multiple sexual partners 207 (18.1%) were HIV negative as compared with 365 with single sexual partners(79%) and 97 with multiple sexual partners (21%) of the clients who were HIV positive. This result is not statistically significant (Chi square is 1.78, df is 1, p value is 0.18, p is greater than 0.05)

Condom Use in the Last 3 Months and HIV Result: Of the clients who were HIV negative (1419), 69% (979) never used a condom, 9.4% (133) always used a condom, 21.6% (307) sometimes used a condom. While out of the clients who were HIV positive (540), 70.6% (381) never used a condom, 8.7% (47) always used a condom, 20.7% (112) sometimes used a condom. This is not statistically significant. (Chi square is 0.47, df is 2, p value is 0.79, p is > 0.05).

DISCUSSION

At the end of 2010, an estimated 34 million people were living with HIV globally. Globally, the annual number of people newly infected with HIV continues to decline, although there is stark regional variation. In sub-Saharan Africa, where most of the people newly infected with HIV live, an estimated 1.9 million people became infected in 2010. Sub-Saharan Africa continues to bear a disproportionate share of the global HIV burden. In mid-2010, about 68% of all people living with HIV resided in sub-Saharan Africa, a region with only 12% of the global population [44].

The HIV epidemic in sub-Saharan Africa is intimately tied with behavioural factors and factors that affect its transmission during sexual intercourse. The pattern of sexual behaviour is also determined by cultural and socio-economic factors [39] The HIV/AIDS epidemic in Nigeria is largely driven by heterosexual sex, with young people particularly women who are highly vulnerable. Such factors identified as fuelling the prevalence of HIV/AIDS include the low levels of male and female condom use, high rates of casual and transactional unprotected sex among young people, poverty, low literacy levels, cultural and religious factors as well as stigma and discrimination [45-48].

Research has however shown that the HIV incidence declined by more than 25% in 22 sub-Saharan countries between the years 2001-2009. These declines in new HIV infections around the world has however been spurred by changes in behaviour among young people, sex workers and their clients, people who inject drugs, men who have

Table 1: Socio-demographic characteristics of the clients

Socio-demographic status of clients	Male		Female		Total	
Age	No	%	No	%	No	%
0-14	126	10.6	112	7.8	238	9.1
15-24	150	12.7	255	17.9	405	15.5
25-34	334	28.3	529	37.1	863	33.1
35-44	291	24.6	283	19.9	574	22.0
45-54	157	13.3	140	9.8	297	11.4
55-64	67	5.7	59	4.1	126	4.8
$ 65	57	4.8	47	3.3	104	4.0
	1182	100.0	1425	100.0	2607	100.0
Marital Status						
Never married, single	392	34.3	400	28.6	792	31.2
Cohabiting	41	3.6	45	3.2	86	3.4
Steady partner, not	65	5.7	64	4.6	129	5.1
cohabiting Married monogamous	462	40.4	504	36.1	966	38.0
Married polygamous	142	12.4	245	17.5	387	15.2
Separated/divorced	26	2.3	64	4.6	90	3.5
Widowed	15	1.3	75	5.4	90	3.5
Total	1143	100.0	1397	100.0	2540	100.0

Table 2: Sexual behaviour of the clients

Sexual Behaviour	Male		Female		Total	
1. Ever Had Sex?	No	%	No	%	No	%
Yes	708	80.9	876	83.7	1584	82.4
No	167	19.1	171	16.3	338	17.6
Total	875	100.0	1047	100.0	1922	100
2. Number of Sexual partners in the last 3 months						
None	281	26.3	388	29.9	699	28.3
One	551	51.6	820	63.3	1371	58.0
Two	157	14.7	67	5.2	224	9.5
Three	49	4.6	15	1.2	64	2.7
$Four	30	2.8	5	0.4	35	1.5
Total	1068	100.0	1295	100.0	2363	100.0
3. Condom use in the last 3 months						
Never	591	55.1	851	66	1442	61.0
Sometimes	235	21.9	211	16.4	446	18.9
Always	123	11.5	69	5.3	192	8.1
Not applicable	123	11.5	159	12.3	282	11.9
	1072	100.0	1290	100.0	2362	100.0
4.Previous/Past history of STIs						
Yes	202	19.9	128	10.3	330	14.7
No	724	71.4	1037	83.9	1761	78.2
Don’t Know	56	5.5	60	4.9	116	5.2
Not Applicable	32	3.2	11	0.9	43	1.9
Total	1014	100.0	1236	100.0	2250	100.0

Table 3: Sexual behaviour and HIV sero-prevalence of clients

	HIV Negative		HIV Positive		Total		
Sexual Behaviour	----------		----------		----------		Statistics (X^2), p value
1.Previous/Past history of STIs	No	%	No	%	No	%	$X^2 = 54.02$, p=0.00, p<0.05
Yes	197	12.9	117	19.9	314	14.8	
No	1254	81.9	407	69.2	1661	78.4	
Don't Know	51	3.3	55	9.4	106	5.0	
Not Applicable	29	1.9	9	1.5	38	1.8	
Total	1531	100.0	588	100.0	2119	100.0	
2. Number of sexual partners							$X^2 = 5.39$, p=0.25, p>0.05
None	467	29.0	155	25.1	622	27.9	
One	936	58.1	365	59.2	1301	58.4	
Two	140	8.7	67	10.9	207	9.3	
Three	42	2.6	20	3.2	62	2.8	
$Four	25	1.6	10	1.6	35	1.6	
Total	1610	100.0	617	100.0	2227	100.0	
3. Condom use in the last 3 months							$X^2 = 0.47$, p=0.79, p>0.05
Never	979	69.0	381	70.6	1360	69.4	
Sometimes	133	9.4	47	8.7	180	9.2	
Always	307	21.6	112	20.7	419	21.4	
Total	1419	100.0	540	100.0	1959	100.0	

sex with men and transgender people. In countries with generalized epidemics, a combination of behaviour changes including reductions in the numbers of sexual partners, increase in condom use and delayed age of first sex, have reduced new infections in several countries. Access to HIV prevention services has empowered individuals and communities to act in earnest against the disease [49].

HIV counseling and testing (HCT) is a key intervention for HIV/AIDS control and new strategies have been developed for expanding coverage in developing countries. HCT increases knowledge of HIV status, encourages safer sex and is a critical entry point to life-sustaining care for people living with HIV. Increasing HCT coverage can reduce HIV-associated denial, stigma and discrimination and mobilize communities to respond to the HIV epidemic [41, 50].

Finding out the sexual health characteristics and sexual behaviour of clients determines if there is indeed risky sexual behaviour and serves as a baseline for comparison if there are changes after HCT. Analyzing and interpreting data obtained from clients utilizing HCT services is vital to designing schemes and programmes of control. Studies have shown a decline in risky sexual behaviour including increase in knowledge about HIV/AIDS, knowledge of how to manage their sexual life, decline in the frequency of sex and reduction in the number of sexual partners. This implies that HCT is pivotal in improving the sexual health of its clients, promoting prevention messages, reducing the capacity for risky sexual behaviour and promoting safer practices among both young people and adults thus causing a decline in the prevalence of HIV infection [37, 51, 52]. Of the clients who accessed the HCT site during this period, 25.9% (643) were HIV positive. This is comparable with a hospital-based HCT HIV prevalence in two different studies in Uganda, where researchers reported a prevalence of 27% and another group reported a prevalence of 28% among clients or patients who had never been tested before [41, 53]. A past history of sexually transmitted infections (STIs) was recorded among almost 15% of clients studied. Among these, 35.0% (117) were HIV positive. This is statistically significant (Chi square is 54.02, p is 0.00, p is less than 0.05) and consistent with previous findings that the presence of STIs increases the risk of HIV transmission and infection. This is because most STIs are asymptomatic, which contributes to its underdiagnosis. Diagnosis of an STI indicates a sexual health risk because its presence facilitates the transmission and acquisition of other STIs including HIV. Coexisting STIs increase susceptibility of acquiring and transmitting HIV by two- to fivefold. Studies show that aggressive STI prevention, testing and treatment reduces transmission of HIV [54-56].

82.3% (1594) of the clients have had previous sexual experience. 76.5% (1827) of the clients did not use a condom during their last sex. Only 8.1% (192) of the clients always use a condom as protective measure during sex. This reflects a high sexual exposure rate and a contrasting low condom use considering that only 53.2% (1364) of the clients were married, with 15.3% (972) married in a polygamous setting. It can be indicative of risky sexual behaviour. Researchers observed that sex and condom use in sub-Saharan Africa involves complex social and interpersonal dynamics. Structural and cultural conditions exist which do not only exert an influence but also set boundaries. Multiple factors were identified which work against condom use and this include limited access and availability, parent and peer relations, insufficient or absent information with myths often disguised as facts, gender and sexual norms which promote male dominance and sexual need as well as female subservience, attitudes towards sex and association of condoms with promiscuity and unfaithfulness as well as interfering with pleasure, fertility and the meaning of sex. All of these dimensions vary across countries and regions of sub-Saharan Africa, but appear to have a consistent association with condom use. In regions and among populations of sub-Saharan Africa where they predominate, condom use is infrequent and inconsistent. Where they are weaker or nonexistent, condom use is more common [57].

13.7% (323) of the clients had more than one sexual partner, 236 (10.0%) were males while 87 (3.7%) were females. Thus more males engaged in having more than one sexual partner than females. This is because cultural and other factors enable men to have more than one sexual partner. Studies have shown that males take more sexual health risks than females including earlier onset of sexual intercourse and multiple sexual partners [37, 38].

About 94% (1589) of the clients will sensitize their partners for testing. This can be an indicator to the likelihood of a change in lifestyle vis-a-vis sexual behaviour and also shows a good public awareness on HIV knowledge. This is in line with research showing that clients presenting for a repeat HCT were more likely to report that partners had received HIV testing. Clients who intended to change behaviors after the first test were more likely to report having changed behaviors by remaining abstinent. Clients presenting for repeat HCT reported some reduction of risky behavior and improved knowledge of sexual practices and HIV status of their partners [58].

CONCLUSION

Sexual behaviour and the factors that influence it are still the main factors involved in the transmission of HIV in sub-Saharan Africa. Particularly indicative of this is the high prevalence of STIs among those who were HIV positive. There is the possiblility that this value might even have been higher but considering the asymptomatic nature of many STIs amongst other factors. The presence of STIs are thus indicative of risky sexual behaviour as well as the comparatively low use of condoms among the clients as well as the multiple sexual partnership reported. This is similar to what other researchers have found, necessitating an appeal for the reinforcement of behaviour change communication concerning sexual risk taking and HIV prevention [59-61].

Recommendations: The focus on the prevention of the transmission of HIV/AIDS through changes in sexual behaviour should be intensified. Early detection and adequate treatment of patients with other STIs would also help reduce transmission of HIV/AIDS. Whilst concerted effort towards a generation free of HIV infection is on-going, continuous awareness creation, adequate social mobilization and reinforcement of behavior change communication are essential for sustainable results in this resource-constrained era.

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