Behavioral and Sexual Practices of HIV Infected Southwestern Nigerians: Implications for HIV Prevention and Control in the Country

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Introduction

The HIV/AIDS epidemic is an important public health challenge globally and especially so in sub-Saharan Africa, where about 80% of the persons infected with HIV and about 95% of all new infections occur [1].

Ironically, Nigeria with about 2.5% of the world population, contributes approximately 10% of the global HIV burden. It is second only to South Africa in terms of global HIV burden [2,3]. Available statistics shows that most persons living with HIV/AIDS in Nigeria were infected through sexual intercourse, with high risk sexual behavior as the leading risk factor [4,5]. The country’s HIV responses from inception have relied majorly on treatment and health sector component of the response it is there four not surprising that the epidemic has remained unabated [6].

The Nigerian authorities realizing the inadequacies of over relying on the treatment component and unisectoral approach of the HIV/AIDS programme in the country, changed to a comprehensive and multisectoral approach as the new policy thrust. In this new policy, prevention has been given its pride of place [6-8]. However these preventive efforts have been directed mainly at the general public; with no specific programing for those at high risk and those already infected. A more pragmatic approach would be to, in addition to the above, have a program me that would ensure that no HIV infected individual passes the virus to an uninfected person. Practically this is froth with many challenges ranging from the fact that majority of the HIV infected individuals in high burden countries are not known and no legal frame work exists to ensure this. In

Abstract

Background: The development of setting specific HIV prevention requires up to date information on the bavioural and sexual practices of the individuals infected with HIV in that setting. This study was conducted to determine the sexual behavior and practices of PLWHAswith the aim of generating essential information that is required to develop setting specific HIV prevention tools.

Methods: A cross sectional study of HIV infected adults receiving care, treatment and support services at a large HIV treatment center in, Lagos seen over a 6 month period. Analysis was with SPSS version 20.0

Results: Majority of respondents were females (56.5%), in the age group 25 - 35 years (50.3%) and desires to have children in future (81.9%). Heterosexual intercourse (68.5%) and blood transfusion (10.1%) were the commonest modes of HIV transmission, however anal sex (4.4%) and IVDU (1.4%) were other modes. While majority reported having at least one child (60.7%), 39.3% reported having no child. Over two thirds of the respondents (67.1%) were on highly active antiretroviral therapy, with only 31.2% achieving self-report adherence of at least 95%. The HIV serodiscordant rate was 25%. Approximately seventy percent (69.9%) of the respondents reported having had sex in the last 3 months. Condom use rate increased from 29.3% to 35.8% post HIV diagnosis, while multiple sexual partnerships decreased from 51.9% to 35.3%. The differences were however not significant (p > 0.05).

Conclusion: In the study, the low condom use rate and high multiple sexual partnership found seem to be driven by the respondents overwhelming desire for childbearing. HIV prevention efforts should target prevention tools such as Treatment as prevention (TasP) and Pre-Exposure Prophylaxis (PrEP) that prevent HIV infection but not pregnancy.
addition, in most sub Saharan Africa countries where the success of marriage is assessed by the number of children; even possibility of HIV infection cannot stop individuals from raising families [9,10]. Strengthening secondary preventive measures among people living with HIV/AIDS (PLWHAS) will ensure the reduction of HIV transmission to the uninfected, reduction of infection with primary drug resistant HIV and reduction of pediatric HIV through prevention of HIV in women of reproductive age group. Among the already infected secondary HIV prevention will also contribute to the reduction of infection with new HIV types, sub-strains, resistant strains and other sexually transmitted infections which have been shown to worsen the prognosis of HIV infection [7,11]. The availability of effective secondary prevention tools for PLWHAs will ensure all of the above. Unfortunately these tools are not readily available in low income countries and where they are present are often imported or developed with information obtained from developed countries.

The development of an effective prevention program me for a specific population group requires an in-depth knowledge of the behavioral characteristics of that specific population [6]. In Nigeria, most available HIV prevention tools are often imported or developed with information from outside the country. This study that examined the sexual behavior and practices of PLWHAs in Lagos, Nigeria was conducted with the aim of generating essential information that is required to develop setting specific HIV prevention tools.

Methods

Study design and setting

A cross-sectional study at a large HIV treatment center, in Lagos southwest, Nigeria. The center started operations in the year 2002 when the Federal Ministry of Health (FMoH) commenced the ARV access initiative. Since 2004 it has been supported by Harvard School of Public Health, Boston MA, and AIDS Prevention Initiative in Nigeria through the United States President’s Emergency Plan for AIDS Relief (PEPFAR). Presently over 24000 PLWHAs have been enrolled into its comprehensive HIV care, treatment and support program me.

Study population and process

All HIV positive adults, who consented to participate in the study and seen at the clinic over 6 month period were enrolled into the study. The clinic population is heterogeneous in nature and includes men and women of diverse ethnic, economic, religious and sociocultural backgrounds. The center patients are referred from both private and public health institutions in different parts of the Lagos state and southwest region; with many others coming from states in other geopolitical of the country neighboring countries.

Data collection and instruments

Study related information from the participants was obtained using a self-administered structured questionnaire. However the unlettered were assisted to complete the questionnaire. The questionnaire consisted of mainly closed ended questions with a few open ended to give the respondents an opportunity to express their view where necessary. The questions were designed to collect information on socio-demographic background, HIV treatment history, sexual practices and behaviors. The questionnaire was first pilot tested and corrections made before the main study.

Data analysis and management

Information obtained was coded and entered into the computer using SPSS version 20.0. Frequency tables were computed for all variables. Continuous variables were treated as individual elements and then as combined summary measures. Student’s t test was used where appropriate.

Ethical considerations

Ethical approval for the study was obtained from the institution’s ethics committee.

Results

A total of 1557 questionnaires were distributed during the study period, and 1499 (96.3%) returned with completed information were used for the analysis.

The sociodemographic characteristics of the respondents are shown in table 1. Majority of the respondents were females (56.5%), married (62.4%), employed (51.4%), and had at least a secondary education (74.4%). The age of the respondents ranged from 15 to 63 years, with a mean of 34.1(± 7.3) years. Majority of the respondents (50.3 %) were between ages 25 to 34 years. Respondents less than 25 years of age constituted 16.7% of the study population. While majority reported having at least one child (60.7%), 39.3% reported having no child. Over eighty percent of the respondents reported desiring to have children in future (81.9%).

HIV related characteristic is shown in table 2. The time elapsed since the respondents HIV status diagnosis ranged from less than 1month to 267 months with a mean of 34.8 ± 13.7 months. In the majority of cases, diagnosis was between 12 and 36 months (42.5%). Over two- thirds of the respondents reported heterosexual intercourse (75.4%) as their possible future (81.9%).
mode of HIV infection. Blood and blood products (10.1%), anal sexual intercourse among men that have sex with men (4.4%) and intravenous drug use (1.4%) were other common modes of HIV infection. One thousand and five (67.1%) out of the 1499 respondents were on highly active antiretroviral therapy. Of the 1004 respondents on HAART, while only 31.2% reported to have missed one pill or none in the last one month. HIV serodiscordant rate was 25% and 43.2% had not disclosed their status. Approximately seventy percent (69.9%; 1005) of the respondents in this study reported having had sex in the last 3 months. Of 1048 respondents, the proportion that reported multiple sexual relationships decreased from 59.1% before HIV diagnosis to 43.2% after HIV diagnosis. The difference was however not significant (p = 0.09). Also none significant increase in condom use was also obtained after HIV diagnosis (p = 0.09). The proportion of sexually active participants using condom increased from 29.3% before HIV diagnosis to 35.8% post diagnosis.

### Discussion

The recognition of the role of responsible sexual behavior and practices in the prevention and control of HIV infection makes the development of an effective behavioral change instruments imperative. The understanding that behavior is often setting specific makes behavioral change instrument developed in other settings almost always inappropriate in other settings. However, the development of setting specific tools requires data that are generated from the particular setting. Unfortunately, while several studies have been conducted on the sexual and contraceptive behavior of the general population in our environment, there is still paucity of similar studies among the HIV positive population, especially in our environment [7]. This study reports information that is important for the development of country specific HIV prevention and control strategies.

In this study female, married participants with at least a secondary education were in the majority. Participants were majorly in the age group 25 - 35 years with over eighty percent desiring to have children in future. Over two thirds of the respondents reported heterosexual intercourse (75.4%) as their possible mode of HIV infection, with blood and blood products (10.1%), anal sexual intercourse among men that have sex with men (4.4%) and intravenous drug use being the next reported modes of infection. Only 31.2% reported to have missed one pill or none in the last one month. HIV serodiscordant rate was 25% and 43.2% had not disclosed their status. Approximately seventy percent of the respondents are sexually active with no significant change in the rate of multiple sexual partnership and condom use since HIV diagnosis.

The findings in this study of the majority of respondents being female (56.5%), married and aged 25-35 years (57.2%) is similar to previous studies in Nigeria and other high HIV burden countries [2,12,13].The findings also show that the feminization of the HIV epidemic in the country continues and that relatively young populations are predominantly affected. The reasons for these observations are obvious, well known and may account for the numbers of new infection occurring daily in the country. Women are more susceptible to HIV infection than men because of their biologic vulnerability, socioeconomic barriers, cultural impediments and practices that put them at risk of HIV. They also have relatively poor access to HIV prevention tools and services [14].

In addition young women are 2-5 times at a higher risk of contracting HIV than their male counterpart [15]. The female preponderance compared to the general Nigerian population may also be the result of the effect of sex on health seeking behavior. It is a well-known fact that females have a better health seeking behavior and thus are more likely to seek help much earlier compared to males [16]. It may also be that the males who got the infection in the first instance are mostly dead and gone. However the percentage of widows of 4.9% among the respondents in this study is not in support of this theory.

The higher proportion of married respondents in the study attests to the fact that a large percentage of new HIV infection occurs in relationship that are termed stable [17]. In our setting...
and most high HIV burden countries, the culture tolerates extramarital affairs by men which encourages HIV transmission within stable relationships [18]. Prevention efforts in the country should in addition to the current effort, specifically target the young married females aged between 25-35 years as this study showed them to be a high risk group for HIV infection and transmission.

Although heterosexual intercourse and blood transfusion have remained the predominant modes of HIV transmission as in this study [2, 4, 7, 18], the worrisome aspect that poses a challenge to the HIV prevention efforts in our setting is the high proportion of respondents reporting anal sex practices (4.4%) and intravenous drug use (1.4%). In previous reports in our environment, these two routes were rarely reported as modes of HIV infection [19, 20]. The observed new trend may either be due to increase in these practices in our setting and/or individuals involved in these practices are beginning to own up. Considering the recent legislation against gay practices in the country, the observed increase in the proportion of persons reporting anal sex practices is not likely to be due to more individuals owning up but may be due to the fact that our study setting is men's sexual health friendly. It is important to note that the current legislation in the country does not prohibit the provision of health care to any Nigerian irrespective of their sex orientation [21]. In our facility during the daily health talk this aspect of the bill is emphasized. The Nigerian national HIV prevention and control program me should borrow a leaf from this type of programming and emphasize the need for the overarching goal of control of HIV in the country through providing prevention services to these key populations, as well as the humanitarian aspect of providing health services within the spots too and among key populations. The new HIV prevention programming should highlight the fact that there is no ‘them’ and ‘us’, rather we are all in it together, and HIV anywhere in Nigeria is HIV everywhere.

The HAART use rate of 67.1% and self-reported good adherence (≥ 95) rate of 31.2% found in this study portend a huge challenge for the national HIV prevention and control program me. It shows that the HIV program me in the country has a huge gap to bridge if it must achieve the 90-90-90 initiative by 2020 in view of the recently adopted test and treat strategy [22]. The reported adequate adherence rate is particularly worrisome as it has a major impact on both reduction of plasma viral load and transmission of infection to partners by the respondents. With the serodiscordant rate of more than 25.0%, the potential for new HIV infection is huge and unimaginable. While adopting the new strategy of test and treat, HIV treatment centers in the country should first strengthen their adherence counseling services before attempts at narrowing the treatment gaps thrown up by the new strategy. This is especially important as putting HIV positive persons on treatment without ensuring adherence will not only lead to the non-achievement of HIV treatment goals but in addition will lead to development and transmission of drug resistant HIV strains within the communities [2, 3].

Another key finding in this study is the averagely small number of living children and over 80% desire for childbearing among the respondents. These findings coupled with the high premium placed on children in our setting make the potential for heterosexual transmission of HIV infection quite high. It highlights the need for effective prevention methods that will prevent HIV transmission but not pregnancy. In this setting any HIV prevention tool that will also prevent pregnancy is not likely to be acceptable. Antiretroviral drugs used either as TasP or PrEP are more likely to be the method of choice as they do not affect pregnancy. This is especially important as the findings in this study did show that multiple sex partnership and condom use rates have not significantly changed since HIV diagnosis. The high desire for childbearing in the study may have accounted for this and need to be addressed. PrEP and TasP services should immediately be implemented in our HIV treatment centers until the treatment gap created by the new test and treat strategy is bridged.

The high multiple sex partnership and low condom use after HIV diagnosis found in this study is worrisome and constitutes a major threat to the current effort at reducing new HIV infection. With this high risk sexual behavior, the possibility of not only acquiring new infection, but infecting partners with drug resistant HIV strain is high [24]. The reason for this finding is not immediately obvious but few reports suggest that with the reduction in the morbidity and mortality associated with HIV as a result of the improved access to antiretroviral therapy, the initial gains made in the reduction of risky sexual behavior are being lost [25]. HIV treatment centers and national program mes need to repackge their HIV prevention strategies among HIV positives to address these present challenges. HIV risk reduction strategies should be integrated into all services provided at HIV treatment centers.

The fifty seven percent disclosure rate of HIV status among these respondents is rather low when compared with previous studies and has implications for HIV prevention efforts [26, 27]. The low disclosure rate in this study may be due to the high stigma associated with HIV in the country [28]. In the presence of stigma and discrimination, persons living with HIV fail to disclose their status, do not live positively and do not seek care when available. The epidemic is thus driven underground with its catastrophic consequences for individuals, their family, community and country. Although stigma and discrimination against PLHIVs has reduced significantly in the country, the low disclosure rate implies that current efforts are not sufficient and need to be strengthened.

**Conclusion**

In the study, the low condom use rate and high multiple sexual partnership found seem to be driven by the respondents overwhelming desire for childbearng. HIV prevention efforts should targets prevention tools such as TasP and PrEP that prevents HIV infection but not pregnancy.

**References**


