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Prevalence of HIV among Attendees of ARFH Centre in Ibadan, Southwestern Nigeria

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Abstract: In a cross-sectional study, 200 patients attending the Association for Reproductive Family and Health (AFRH) Centre in Ibadan, Nigeria were screened randomly to determine the prevalence of HIV, using conventional methods. Of the 200 subjects, 18(9.0%) was positive for HIV. Risk factors associated with HIV were young age, sex and marital status ($P<0.05$). The importance of routine HIV screening in sexually active patients especially among the young and singles is advocated. It is recommended that routine screening for HIV should be incorporated into hospital care.

Key words: HIV-1/2 · Seropositivity · AFRH · Prevalence · Nigeria

INTRODUCTION

The human immunodeficiency virus (HIV)/acquired immunodeficiency syndrome (AIDS) epidemic has been a public health crisis for the African communities for two decades. In the United States, black people are disproportionately affected by HIV compared with other racial/ethnic groups [1]. In 2003, CDC launched the Advancing HIV Prevention (AHP) initiative to implement new models for diagnosing HIV infections outside medical settings [2]. In 2006, CDC recommended that all people aged 13 to 64 years be screened for HIV in all health-care settings after being notified that testing will be performed unless they decline [3].

Therapeutic progress has improved the health condition of HIV-AIDS patients and their longevity [4-9]. Fear of stigma, anxiety, disappointment, depression, stress, lower perceived quality of life are among the problems patients face after their HIV diagnosis [8-12]. Testing for HIV can serve as a bridge for providing earlier treatment and encouraging behavior change among people already infected with HIV or at risk for HIV infection [1, 13-15]. Different studies to determine the prevalence of HIV among different populations have been carried out. UNAIDS estimates that approximately one-half of 1% (0.5%) of the world's population is currently living with HIV infection [16,17]. In African countries such as.

Zimbabwe and South Africa, 20% of adults are infected with HIV. However, the use of diaphragms and lubricants by South African women brought the incidence rate to 4% per 100 women [18]. Children are not left out in the global threats of the dreaded HIV, as Ali [19], reported HIV and tuberculosis co infections among children in Ethiopia.

The objective of this prospective study was to identify the infection rates of human immunodeficiency virus among different age groups, sex, of ARFH attendees in Ibadan, Southwestern Nigeria.

MATERIALS AND METHODS

Study Area: The study was carried out among attendees of Association for Reproductive Family and Health (AFRH) centre in Ibadan. Ibadan city lies 3°5' E and 7°23' N. The city is characterized by low level of environmental sanitation, poor housing and lack of potable water and improper management of wastes especially in the indigenous core areas characterized by high density and low income populations.

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Table 1: Demographic profiles of the attendees of AFRH Clinic in Ibadan, Southwestern Nigeria

Profiles	No. Tested (%)	No. males (%)	No. females (%)
Age Group (years)			
16-29	98(49.0)	18(18.4)	80(81.6)
30 and above	102(51.0)	31(30.4)	71(69.6)
Sex			
Males	49(24.5)	49(100.0)	0(0.0)
Females	151(75.5)	0(0.0)	151(100.0)
Marital status			
Married	141(70.5)	15(10.6)	126(89.4)
Single	59(29.5)	34(57.6)	25(42.4)
Total	200(100.0)	49(24.5)	151(75.5)

Table 2: Prevalence of HIV infections in relation to sex of subjects

Sex	No. Tested (%)	No. Positive for HIV (%)
Males	49(27.0)	5(10.2)
Females	151(10.5)	13(8.6)
Total	200(100.0)	18(9.0)

Table 3: Prevalence of HIV in relation to ages of subjects

Age group (year)	No. Tested (%)	No. Positive for HIV (%)
16-29	98(49.0)	7(7.1)
30 and above	102(51.0)	11(10.8)
Total	200(100.0)	18(9.0)

Table 4: Prevalence of HIV in relation to marital status of subjects

Marital status	No. Tested (%)	No. Positive for HIV (%)
Singles	59(29.5)	11(18.6)
Married	141(70.5)	7(4.9)
Total	200(100.0)	18(9.0)

Study Population: Two hundred consecutive patients, who attended the STI clinic of a secondary health care centre (ARFH), with one or more of the complaints as enunciated by WHO in its syndromic approach for the diagnosis of STI [20] were included as subjects. Table 1 shows demographic profiles of the attendees of AFRH Clinic in Ibadan, Southwestern Nigeria.

Sample Collections: Samples of blood, were collected from males and females, respectively and subjected to screening of HIV. About three milliliters of venous blood (without anticoagulant) was collected aseptically from all patients. Sera were separated and stored at -20°C in screw-capped glass tubes.

Detection of HIV-1 and -2 Antibodies: Sera were tested for antibodies to HIV by ELISA/rapid tests, using WHO-approved kits, following NACO guidelines, after pretest counseling and written informed consent, followed by post-test counseling.

Data Analysis: The proportions were calculated for HIV prevalence.

RESULTS

Demographic data for this sample are shown in Table 1. The median age of the subjects in the sample was 21 years (range, 16 to 73). Female subjects predominated, composing 75.5 percent of the sample. Of the two hundred (200) patients, 151 females and 49 males tested, 18(9.0%) were positive for HIV. Table 2-4 shows the prevalence of HIV infection. The seroprevalence of HIV was 9.0%.

Prevalence of HIV Infection in Relation to Sex: The prevalence of HIV in relation to sex of ubjects has been shown in Table 2. The seroprevalence of HIV was higher in males [5(10.2%)] than in their female counterparts [13(8.6%)]. There was a significant association ($P<0.05$) between sex and HIV infection acquisition (Table 2).

Prevalence of HIV Infection in Relation to Age of Subjects: Table 3 shows the prevalence of HIV infection in relation to the ages of the AFRH attendees in Ibadan, Southwestern Nigeria. The age specific distribution of HIV among subjects in the study shows that those in the age group of 30 years and above had a higher prevalence rate of HIV 11(10.8%) compared to those in age group 16-29 years which had a lower prevalence rate of HIV 7(7.1%) as shown in Table 3. There was a significant association ($P<0.05$) between age groups and HIV infection acquisition.

Prevalence of HIV Infection in Relation to Marital Status of Subjects: Table 4 shows the prevalence of HIV infection in relation to the marital status of AFRH clinic attendees in Ibadan, Southwestern Nigeria. Seroprevalence of HIV was higher among the singles 11(18.6%) than the married 7(4.9%). Statistically, marital status was significantly associated with HIV infection occurrence ($P<0.05$) as shown in Table 4.

DISCUSSION

In the present study, HIV prevalence was 9.0% (n=18). This is lower than the values reported by other investigators. Akouma *et al*. [21] reported a general prevalence rate of 81.0% among pregnant women receiving prenatal care at Sainte- Justine Hospital, Canada. This is quit alarming. It is apparent that pregnant women are involved in unprotected sexual intercourse leading to pregnancy. This could account for the high prevalence rate among this group [22]. It is also lower

than the 17.5% reported by Okonko *et al*. [23] in Ibadan, Nigeria. Macpherson *et al*. [24] reported in Canada that 36 out of 256, 970 children greater than 15 years of age were HIV positive. This group of children are sexually active and may not see need for the use of protective devices such as good quality condoms. This is in line with the basic knowledge that HIV/AIDS is a disease of debilitation [22].

The 9.0% prevalence rate reported for HIV in this study is higher than what was reported by some other authors in Nigeria and outside Nigeria. It is higher than the 4.79% reported by Nwachukwu and Orji [22] among fresh Nigerian Graduates; the 5.0% reported by Middelkoop *et al*. [25] among adolescents in a high HIV and TB prevalence community; the 6.0% reported by Egah *et al*. [26] among blood donors in Jos, Nigeria; the 4.55% reported in Cameroon [27]; 3.1% reported by Buseri *et al*. [28] among prospective blood donors in Osogbo, Nigeria; the 3.5% seroprevalence reported for HIV in Enugu [29]; the 3.8% seroprevalence of HIV reported by Matee et al. [30] at MNH in Dar es Salaam; the 5.8% reported by Chikwem *et al*. [31] in Maiduguri, Nigeria; the 7.0% reported by Oronsaye and Oronsaye [32] in Benin City, Nigeria and the 0.0% seroprevalence rate reported by Alli et al. [33] in Ibadan. However, the value reported for HIV in this study is comparable to the 10.0% reported by Umolu *et al*. [34] in Benin City, Nigeria and the 10.0% reported by Sule *et al*. [35] among Children in Anyigba, Kogi State, Nigeria.

In this study, three risk factors (age, gender and marital status) pertinent to transmission of HIV were evaluated. All appeared to be significantly associated with HIV-1/2 antibodies prevalence among the samples screened. Age, gender and marital status were significantly associated ($P< 0.05$) with HIV-1/2 seropositivity. This deviated from the findings of Alikor and Erhabor [36] and Sule et al. [35], who reported no statistically difference in gender. Our findings is compared favourably with the findings of most previous studies which attributed that higher proportion of male than female population had antibody to HIV [37-38]. Previous study by Olaleye et al. [37] showed a significantly higher HIV infection rate among males than females in different regions and even in communities within the same geographic location in the country [37]. This present finding also differ from that of Okonko et al. [23] who reported higher HIV infection rate among females than males. In sub-Saharan Africa region, as worldwide, female population is a key factor in the epidemiology of HIV and AIDS because 50% of all adults with HIV infection are women predominantly infected via heterosexual transmission; furthermore, females are the most severely affected [35, 39-40].

Elsewhere in Nigeria, higher seroprevalence rate among different populations have been reported for HIV [41-44]. The prevalence of HIV infection also varied with age, the highest prevalence rate was recorded in age group 30 years and above. This agrees with previous findings, Akinjogunla and Adegoke [44] reported a significant difference in the age of the individuals with the HIV infection and the prevalence of the HIV infection in relation to age to be 13.6% for age group 31-45 years. Okonko *et al*. [23, 45] also reported a significant difference in the age of the subjects and HIV seropositivity. However, this observation deviated from that of Motayo et al. [43] who reported a higher HIV seropositivity among age group 20-29 years.

By the end of 2009, it was estimated that there will be only one HIV testing and counseling facility for approximately every 53,000 Nigerian adults, which shows how desperately the government needs to scale up HIV testing services [46]. Statistics show that by the end of 2009, about 3 million people were living with HIV in Nigeria [47]. However, the National Agency for the Control of AIDS (NACA) has just launched its National Strategic Framework to cover 2010 to 2015 [47]. This Framework is to reach 80 percent of sexually active adults and 80 percent of most at-risk populations with HIV counseling and testing by 2015; ensure 80 percent of eligible adults and 100 percent of eligible children are receiving ART by 2015; and to improve access to quality care and support services to at least 50 percent of people living with HIV by 2015 [48]. Nigeria, therefore, still has a long way to go in combating its devastating AIDS epidemic [49].

In conclusion, this study shows a high incidence of HIV seropositivity (9.0%) in the study population and it indicates the close association of STI with HIV. Previous studies from different parts of the world have also supported these observations [50-51]. In conclusion, HIV constitutes the major burden of the STI clinic and enhances the susceptibility of an individual to acquire or transmit HIV through sexual contact. The government should allocate adequate funds for health programs and research, particularly those associated with STIs.

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