International Journal of Biomedical and Health Sciences
Vol. 3, No. 1, March 31, 2007
Printed in Nigeria

0794-4748/2007 $12.00 + 0.00

http://www.asopah.org

IJBHS 2006054/3109

Adolescent HIV/AIDS: An update of cases seen in Aminu Kano Teaching Hospital, Kano, Nigeria

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(Received December 12, 2006)

ABSTRACT: Human Immunodeficiency Virus (HIV) infection is having a significant impact on adolescents mortality and adding a considerable burden to poor under resourced health services. The seroprevalence of HIV infections was investigated among 1,455 adolescents aged 13 –19 years who presented for HIV testing between 2000 and 2005 at Aminu Kano Teaching Hospital, Kano. The serum samples of the subjects were tested for HIV antibodies using ELISA or rapid test kits and confirmed with Western blot. The overall prevalence rate was high 11.8% , with higher percentage (7.1%) being recorded in females as compared to males. There was a marked increase in prevalence from 4.8% in 2000 to 13.3% in 2005. Various studies in Nigeria have shown that adolescents are sexually active, have multiple sexual partners and have recorded high prevalence of STDs. In view of the association of HIV infection with these high risk factors, the results of this study further re-echoes the urgent need to target specific intervention programmes at adolescents.

Key Words: HIV, Seroprevalence, Adolescents; ELISA

Introdution

There is a growing worldwide concern about the increasing prevalence of HIV infection and AIDS. The spread of the disease in Africa is quite disturbing having reached epidemic proportions in most parts of the continent.1,2 It had been estimated recently that more than half of the AIDS cases in Africa, including Nigeria would consist of Women and Children 3,4. Currently, HIV infection among young people aged 15 – 24 years account for 60%5 of all HIV new cases in Nigeria and that the infection in young women outnumbers that in young men by a 2:1 ratio6 . HIV transmission in Africa is mainly through heterosexual route and over 70% of the history is of sexually transmitted diseases and multiple sexual partners7.

Nigeria's population has grown rapidly in recent decades. The annual rate of growth of the Nigerian population8 is estimated at 2.8%. Nigeria has been undergoing a demographic transition from a high fertility and high mortality population to a low – fertility and decking mortality population. The median age of the population is 17years. The 15 –24 years age group constitutes about 20% of the population.

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The aim of this study is to determine the prevalence of HIV infection in a cohort of adolescents attending the Infectious Disease Clinic and those attending voluntary counseling unit of Aminu Kano Teaching Hospital, Kano. The study will increase knowledge and understanding of the fast growing hospital based data in the seroprevalence of HIV infection and AIDS in Nigeria. The information gathered could be used by policy makers or clinicians as well as researchers in planning control strategies in the environment.

Materials and Methods

Aminu Kano Teaching Hospital Kano. has well equipped HIV Screening facilities. All adolescents, 13 – 19 years who presented at the center (Infectious Disease clinic and voluntary counseling and testing unit) for HIV screening between 2000 and 2005 formed the study population.

During the hospital visit, subjects were seen and detail of their medical history and examination were recorded in a structured questionnaire.

About 5ml of blood sample was collected from each. Serum samples were separated after centrifugation within two hours of collection and the samples were immediately analyzed. All sera were screened using Rapid assay kits, Immunocom HIV 1 and 2 Bispot Orgenics ,Israel and confirmed by Western Blot (Biorad, Melville, New York)

However, prior to blood sample collection, all respondents were counseled and they subsequently received post-testing counseling based on their test result. Those who tested positive were further .monitored, managed symptomatically or offered anti-retroviral therapy depending on their presenting clinical features.

The chi – square test was used to analyze the data. The P value of 0.05 was considered significant.

Results

During the study period, 1,455 adolescents were screened for HIV infection. The patients presented with various clinical symptoms such as fungal infection, oral candidiasis, unexplained weight loss and sexually transmitted diseases. The indication for HIV testing was mainly dictated by the respondents' clinical symptoms or life style in asymptomatic cases. There were 645 (44.3%) males and 810 (55.7%) females as shown in Table 1. The number of females was consistently higher than the males throughout the study period. The age of the study population ranged from 13 to 19 years with a mean (SD) 16.4 + 1.6 years for males and 16.0 + 2.1years for females.

Table 2 shows the number of annual HIV Seropositive cases and seroprevalence rates of the 1,455 adolescents screened. 172 were seropositive for HIV antibodies with a prevalence rate of 11.8%. There were 68 (4.6%) males and 104 (7.10%) females that were seropositive.

The seroprevalence rate increased from 4.8% in 2000 to 13.3% in 2005. Although a higher seropositive rate was recorded for females than for males, the difference was not statistically significant ($\chi^2 = 1.42$, df =7, $P > 0.05$).

Discussion

The result of this study shows an overall HIV prevalence rate of 11.8% among the 1,455 adolescents. This rate is higher than previous report of 1.7% and 3.3% recorded among blood donors and 8% found among healthy women of child bearing age (8,9). The rate of HIV infection varies among different sub-population group in Nigeria.

Table 1: Sex distribution of adolescents screened for HIV infection in Kano, Nigeria 2000 – 2005.

Year	Male	Female	Total
2000	8	13	21
2001	20	35	55
2002	55	98	153
2003	140	185	325
2004	180	224	404
2005	242	255	497

Table 2: Prevalence of HIV seropositivity among adolescents in Aminu Kano Teaching Hospital, Kano, Nigeria.

Year	Adolescents screened	HIV Seropositive	Prevalence
2000	21	1	4.8
2001	55	4	7.2
2002	153	15	9.8
2003	325	37	11.3
2004	404	49	12.1
2005	497	66	13.3
Total	1,455	172	11.8

Table 3: Distribution of HIV seropositivity based on gender of adolescents.

Sex	Seropositive	Seronegative	Total
Male	68 (4.6%)	577 (39.7%)	645 (44.3%)
Female	104 (7.1%)	706 (48.5%)	810 (55.7%)
	172 (11.8%)	1,283 (88.2%)	1,455 (100%)

$\chi 2 = 1.42$, d.f. = 9, $P < 0.05$

These figures are also significantly higher than the 2005 national HIV prevalence rate of 5% and reported among women of child bearing age in Kano State (9). The prevalence rate in this study is comparable to the median HIV prevalence rate of 11.5% recently recorded among a high risk group, sexually transmitted disease (STD) patients in the country 9 . These figures therefore may be regarded as high, which may constitute a hidden source of HIV Spread in the Community. This is a community where inter-generational sex in still being practiced. The percentage increase of point prevalence from 4.8% in

2000 to 13.3% in 2005 and the overall prevalence of 11.8% are strong indications that HIV infection is spreading rapidly in the community especially among the adolescents. Cases of HIV Seropositives were higher in females than males. Similar data have been reported in adult population in many Sub-Saharan African countries where the infection in women outnumbered that in males (10,11). The reason for these findings are also applicable to adolescent females and this is in addition to their high risk sexual exploit. Furthermore, adolescent females are known to be more vulnerable to HIV infection than adult females because of the immaturity of their biological and social factors12,13 Another reason may be due to high number of female adolescents tested in this study. In Nigeria, studies have shown that adolescents are sexually active, have multiple sexual partners and have recorded high prevalence of STDs 14-16. These are high risk factors that have been documented to facilitate the rapid spread of HIV/AIDS in sub-Saharan African countries 2,6,16 . There is also a communication gap in the African culture, where it is a taboo for parents to discuss sexuality with their children, which could compound the problem. These findings should be worrisome considering the long term consequences including morbidity, decline productivity and decrease in life expectancy. It is therefore suggested that health education programmes with special emphasis on sexuality and counseling should be incorporated into the school curriculum.

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