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PREVALENCE OF HIV/AIDS INFECTION IN PARTS OF AKWA IBOM STATE, NIGERIA

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ABSTRACT

This study was carried out to determine the prevalence of HIV/AIDS infection in parts of Akwa Ibom State, Nigeria using a National Algorithm technique. A total of 2895 volunteers were randomly screened for the infection. The prevalence of 10.1%, 9.9% and 11.2% were recorded for parts of Ikot Ekpene, Uyo and Eket respectively with no significance difference ($\leq$ 0.05) for each area**.** The prevalence of HIV/AIDS infection was independent of socio- demographic factors such as age and gender except educational status. The prevalence of the infection by age range in Ikot Ekpene, Uyo and Eket districts differed statistically ($p \geq 0.05$). The results revealed highest percentage of prevalence as 15.8%, 23.8% and 30.8% with the age ranges of > 50years, 21-30 years and 0-10years of age respectively. Although the male subjects had higher percentage of positive cases 10.3% in Ikot Ekpene, female subjects in Uyo and Eket with 10.0% and 13.2% respectively but with no statistical difference ($p \leq 0.05$). Volunteers who attended primary school education only in Ikot Ekpene had the highest percentage of the infection of 23.5%. Those with no formal education in Uyo 23.2%, and 44.6% was recorded for subjects who had only primary school education in Eket zone with significance difference (≥ 0.05). More public awareness and enlightenment campaigns are necessary to reduce the spread of the infection.

INTRODUCTION

The Human Immunodeficiency Virus (HIV) is one of the human T-cell lymphotrophic retroviruses (human T-cell leukemia virus types 1 and 11) of the family Retroviridae and subfamily Lentiviridae (Abimiku *et al*, 1994; Greenwood *et al*, 2007). AIDS is a term used to describe the final stage of HIV infection at which the immune system has been weakened and compromised to a point that it can no longer fight certain life-threatening infections and illnesses (Prescott *et al*, 2008; Udoh *et al*, 2009). HIV been one of the most serious problems of man not only of its implication in health aspect, but in strong social, economic and political issues (UNAIDS, 2006). Globally, HIV/AIDS has taken much attention, energies and resources both from governments and non-governmental organizations (NGOs). HIV/AIDS infection is now pandemic and is a leading cause of death in sub-Saharan African countries, the fourth biggest killer worldwide (Vass, 2001). According to Akinjogunla and Adegoke, (2009), HIV epidemic continues to present health problems in developing countries. The study is aimed at determining the prevalence of HIV/AIDS infection in parts of Akwa Ibom State, Nigeria.

MATERIAL AND METHODS

Subjects used in this research were persons who came to hospitals selected for the study for medical reasons such as HIV testing, staff employment, student` admission etc.

Ethical Consent and Approval

The ethical consent and approval were obtained from ethical committee of hospitals and patients used in the study. A structural questionnaire was designed which served as a tool that helped to elicit some important epidemiological factors responsible for the prevalence of the infection.

Collection of Samples and Serological screening of patients for HIV/AIDS antibodies. Blood samples were collected from patients who were willing to participate in the study. Sera obtained were screened for the presence of HIV 1 or 2 antibodies using serial immune-chromatographic qualitative tests (National Serial Algorithm), recommended by WHO (2006) with commercially available recombinant antigen based rapid tests with 100% sensitivity and specificity. Serial testing implies performing a second confirmatory test after an initial positive test. The kits used were: DETERMINE (Abbot Laboratories Japan), UNIGOLD (Trinity Biotech Plc Bray, Ireland) and STATPAK (Chembio diagnostic system INC, New York). Samplesthat were either positive or negative in DETERMINE kit (the first line of test), was confirmed with UNIGOLD and STATPAK kits.

Statistical Analysis

Analysis of Variance (ANOVA) was used to determine the significant level in the prevalence of HIV seropositive subjects in each of the areas studied. Simple percentages were employed to express the prevalence and the frequency of occurrences of the infection. Chi-Square test was used to analyze significant differences in the distribution of the infection by age-range, gender, marital and educational status of patients screened in each of the senatorial districts of the State. The SSPS statistical package (version 17.0) was used for these analyses**.**

RESULTS

A total of 2895 volunteers were screened with the overall prevalence of 300/285 (10.4%) of HIV/AIDS infection in parts of Akwa Ibom State. The prevalence of 100/988 (10.1%) 100/1015(9.9%) and 100/892 (11.2%) respectively were recorded as for Ikot Ekpene, Uyo and Eket areas (Table 1). There was no significance difference (> 0.05) in the prevalence of the infection when compared to figures obtained in one area with another**.**

Table 1: Prevalence of HIV/AIDS infections in Akwa Ibom State

Location	Total number of patients screened	No. of HIV/AIDS seropositive patients	Prevalence (%)
Ikot Ekpene	988	100	10.1
Uyo	1015	100	9.9
Eket	892	100	11.2
Total	**2,895**	**300**	**10.4**

The prevalence of HIV/AIDS infection by age range is shown in Figure 1. Data in parts of Ikot Ekpene revealed highest percentage of distribution as 42/266 (15.8%) in the age range between 21-30 years, followed by 6/51(11.8%) and 29/253(11.5%) in the age ranges of 0-10 years and 31-40 years respectively. 11/12(8.7%) of the infection was recorded in the age range of 41-50, 5/105(4.8%) of the infection was recorded for the age range > 50years while the least percentage of distribution of 7/183(3.7%) was observed in the age range 11-20 years. Similarly, the prevalence of HIV/AIDS infection according to age range in parts of Uyo showed highest percentage of distribution as 10/42(23.8%) in the age range of >50years, followed by 8/46(17.8%) and 8/54(14.8%) in the age ranges of 0-10 years and 41-50 years respectively. The age ranges of 21-30 years and 31-40 years recorded 36/365(9.9%) and 32/402(7.9%) percentage of the infections while the least percentage of distribution of 6/102(5.9%) was observed in the age range 11-20 years. Moreover, in parts of Eket, the prevalence showed the highest percentage of HIV/AIDS infection in the age range of 0-10 years of age with 8/26(30.8%), this was followed by patients of 41-50 years with 15/86(17.4%), 24/142(16.9%) of the infection was recorded for subjects in the age range of 31-40years, 45/304(14.8%) from the age range of 21-30years of age while the least percentage of 4/293(1.4%) of the infection was obtained in the age range of 11-20 years of age.

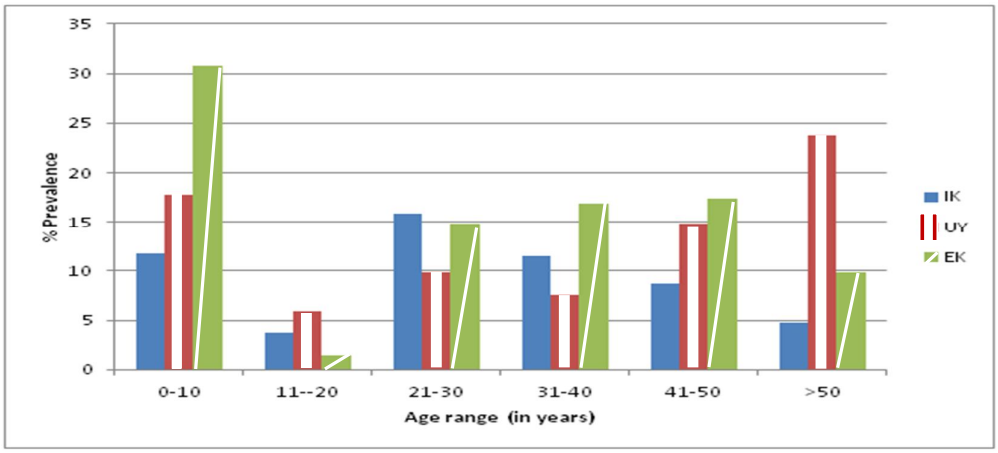

Figure 1: Prevalence of HIV/AIDS infection by age range of in parts of Akwa Ibom State.

The prevalence of the infection by gender (Figure 2) showed that in parts of Ikot Ekpene, male population had slightly higher percentage of positive cases 41/398 (10.3%) while females had 59/590 (10.0%) respectively with no significant difference (P≤0.05). In parts of Uyo, study revealed higher percentage distribution of infection were comparable (P≤0.05) as 66/659 (10.0%) in the females while their males had 34/356 (9.6%) of the distribution. Data from female patients in parts of Eket had 70/530 (13.2%) significantly higher (P≥0.05) when compared males who had with 30/562 (8.3%) of the infection respectively.

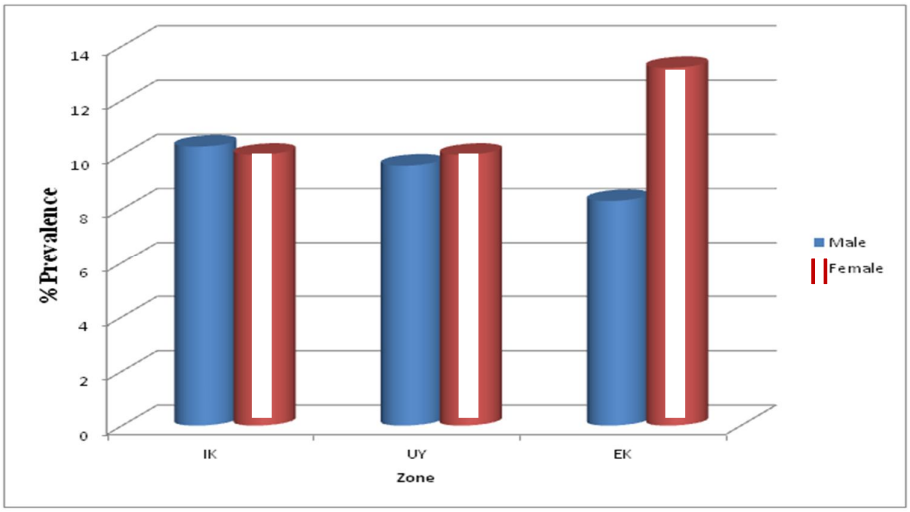

Figure 2: Prevalence of HIV/AIDS infection by gender in parts of Akwa Ibom State

On marital grounds (Figure 3), widows had 11/25 (44.0%) as the highest percentage distribution of positive cases in Ikot Ekpene zone, while the least of 42/498 (8.4%) was observed among volunteers that are unmarried. In parts of Uyo, unmarried persons had 42/705 (6.0%), while married patients had 54/301 (17.9%) of the infection. The highest percentage of distribution was recorded as 4/9 (44.4%) among the widows. In Eket, widows showed 3/7 (42.9%) as the highest percentage of the distribution of the infection, 59/426 (13.6%) of the distribution was observed among married patients and the least percentage of prevalence of HIV/AIDS obtained was 39/459(8.5%) among the unmarried patients.

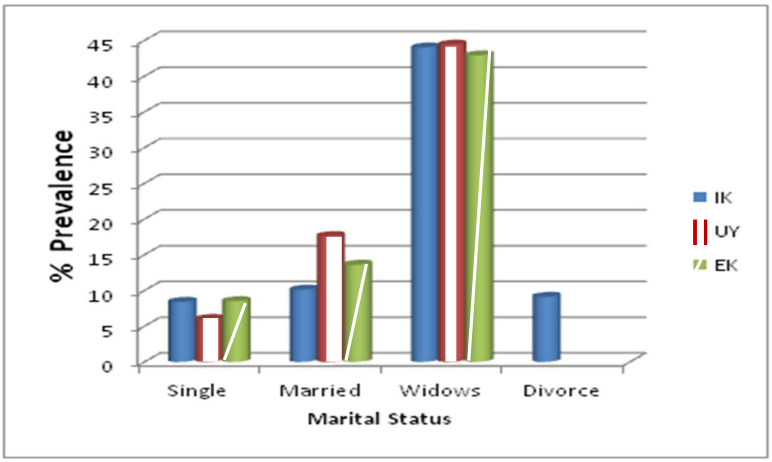

Figure 3: Prevalence of HIV/AIDS infection by Marital Status parts of Ikot Ekpene, Uyo and Eket, Akwa Ibom State.

The prevalence by educational status (Table 2) from parts of Ikot Ekpene showed a highest percentage of 31/132 (23.5%) infection among patients who had only primary school education, followed by 11/73(15.1%) among those who had no formal education, 26/716 (9.4%) recorded from patients who had education up to junior secondary school level, 24/278 (8.4%) obtained from patients who had senior secondary education. 8/222 (3.6%) was observed as the least percentage distribution among those who attended tertiary institution. Data based on educational status from Ikot Ekpene differed significantly ($p \geq 0.05$) from one level of education to another.

Table 2: Prevalence of HIV/AIDS infection by educational status of subjects studied in each geopolitical zone of Akwa Ibom State.

Educational status	Patients screened in IkotEkpene	No. of HIV/AIDS Patients obtained in IkotEkpene (%)	Patients screened in Uyo	No. of HIV/AIDS Patients obtained in Uyo (%)	Patients screened in Eket	No. of HIV/AIDS Patients obtained in Eket (%)
No formal education	73	11(15.1)	56	13(23.2)	33	14(42.4)
Primary school	132	31(23.5)	73	13(17.8)	56	25(44.6)
Junior Secondary School	276	26(9.4)	77	17(20.1)	271	33(20.1)
Senior Secondary School	285	24(8.4)	199	24(12.1)	382	20(5.2)
Tertiary	222	8(3.6)	610	33(5.4)	150	8(5.3)
Total	988	100(10.1)	1015	100 (9.9)	892	100(11.2)

The prevalence of the HIV/AIDS infection by educational status of the patients in Uyo showed the highest percentage the infection of 13/56 (23.2%) from those with no formal education, closely followed by those who had up to junior secondary education with17/77(20.1%) of HIV/AIDS infection,13/73(17.8%) of the infection was recorded from those who acquired primary education only, 24/199(12.1%) of the infection was obtained from those who acquired senior secondary education while the least percentage distribution of 33/610(5.4%)

was obtained from those who have attended tertiary institution. Figures on the prevalence of HIV/AIDS infection obtained in Uyo zone had significant difference ($p \geq 0.05$) at each level of education when compare with another.

Similarly, in parts of Eket, the highest percentage of HIV/AIDS infection by educational status was 25/56 (44.6%) for those who attended primary school education. It had no significant difference ($p \leq 0.05$) when compared with 14/33 (42.4%) from patients with no formal education in same area but differed significantly ($p \geq 0.05$) from 33/271 (20.1%), 20/382 (5.2%) and 8/150 (5.3%) of the infection recorded for those who had education to junior secondary school, senior secondary and tertiary institution respectively.

DISCUSSION

In this study, overall HIV/AIDS prevalence of 10.4% was obtained for the three parts in Akwa Ibom State**.** The prevalence is close to 10.9 % recorded in 2012 (Federal Ministry of Health, 2013; Yankari report, 2013). Reports on HIV sentinel surveillance survey on Akwa Ibom State presented a prevalence rate of 1.4% in 1993, 12.5% in 1999, 10.7% in 2001, 7.2% in 2003 and 8.0% in 2005, 9.7% in 2010 (Akwa Ibom State Action Committee on AIDS 2005; WHO.2007; Ajibola *et al.,* 2010; Federal Ministry of Health 2010). Moreover, the HIV/AIDS prevalence rate obtained in the State was "too high" compared to the national figure of 4.1% (Federal Ministry of Health, 2013). Stigmatization was observed to be responsible for the refusal of the people to present themselves for diagnosis and treatment, thereby aiding the spread of the disease.

The study revealed that children, youth and adults are affected by HIV/AIDS infection in the three parts of Akwa Ibom State. In this study, data on HIV/AIDS prevalence by age groups showed a considerable variation. The highest percentage of HIV/AIDS infection in the age range of 0-10 years of age is 30.8% among children in parts of Eket. This suggests that the infection possibly be acquired by the children through Mother to Child transmission (MTC) transmission and possibly blood transfusion rather than sexual intercourse. Previous studies in Nigeria by Nasidi and Harry (2006) on the preponderance of HIV infection prevalence in infants had noted that birth by HIV infected mother and blood transfusion are predominant factors in MTC transmission. Report by Federal Ministry of Health, (2O13) showed that at least 50, 000 to 100,000 babies born annually in the Nigeria are infected at birth HIV/AIDS.

In parts of Ikot Ekpene, the youths were mostly infected with HIV/AIDS as the highest percentage of prevalence of 15.8% was obtained between 21-30 years. Adults were highly diagnosed with the HIV/AIDS infection in Uyo zone as highest percentage of distribution as 23.8% in the age range of $\geq$ 50 years and same in Eket zone whereby 17.4% was obtained from patients of 41-50 years. According to a survey conducted by (UNAIDS, 2008), youths were more infected than other age groups. The least percentage of distribution in all the zones was obtained in the age range 11-20 years. Sex is the major mode of transmission of these HIV/AIDS infections as the children and youths within this age range are not actively engaged in sex.

In this study, although there were variations in the percentage distribution of HIV/AIDS infection in terms of gender, males and females were affected equally with the virus. Sex does not determine the rate of this infection contrary to the reports of Edewor (2010). The observation might be the fact that men by nature are not readily debilitated by sickness and many do not readily consent to medical tests despite the fact that such test may be done free. Moreover, female subjects are more routinely screened during antenatal examinations.

Moreover, in the study, it was observed that widows were mostly infected with HIV/AIDS. This study presents significantly different prevalence by marital status. Infection prevalence was higher among widows, probably because of the few numbers screened.

The study also observed that patients affected more with HIV had no formal education. Same was also reported by Peterson and Obileye (2002) and Edewor *et al* (2010 who).

Education is necessary as this will help to enlighten citizens on the existence of this infection, mode of transmission as well as prevention and control of the infection. Education can also help someone to change traditional health belief system since all human societies has different ways of classifying disease (Kapungwe, 2002; Kirby *et al*., 2007; Erica, 2008). According to Pennep *et al*., (2006), low literacy in Nigeria is characterized as one of the most rapidly increasing rates of new HIV/AIDS cases.

However, at any level of education, maintaining clean moral values and self-discipline is important (Erica 2008). According to Jegede, (1998), the beliefs and attitudes of people are crucial determinants of what they call disease and the health related actions they take to combat such diseases.

CONCLUSION

To reduce the burden of HIV infection, there is need for young people to abstain from unprotected sex. The HIV/AIDS control is premised on three principles of ABC, A-Abstinence, B-Be Faithful and C- Condom. There should be more programmes to gear up advocacy and awareness campaign in the rural areas to sensitize the people on the dangers of HIV/AIDS. Akwa Ibom Government should soon enact a law against stigmatisation of persons living with HIV/AIDS in order to reduce the prevalence rate in the state. Those infected with the virus should avail themselves of the free medical treatment in all government hospitals in the state.

REFERENCES

Abimiku, A. G., Zwandor, G., Kyari, N., Opajobi, S., Ibanga, S., Guyit, A., Kigbu, J., Ekezue, E., Danladi, M., Williams E. A. and Jones, S (1994). HIV-1, not HIV-2 is present in Nigeria: Need for consideration in Vaccines plans. *Vaccine Research* 3(2): 101-103.

Ajibola,C, Ogunjimi, L. Emeribe,V, Edim, M. and Akpan, S.C *(2010)* Literacy for Folklore and Cultural Reformations: It's Perspective in the Control of HIV/AIDS. *Lwati: A Journal of Contemporary Research. 7:3:17-19.*

Akinjogunla, O. J and Adegoke, A.A (2009) Sero-prevalence of human immunodeficiency virus (HIV) 1 and 2 infections in Uyo metropolis, Akwa Ibom State .*Scientific Research and Essay* 4(6) 590-593.

Akwa Ibom State Action Committee on AIDS (2005). AIDS, Our Fight, State Ministry of Health report, Uyo, Nigeria.

Anunobi, C.V. (2006). Students' awareness of and attitude to HIV/AIDS: Implications for information providers. *Communicate 8* (2):14-26.

Daniel, E and Akpan, P. A. (2006). Akwa Ibom State travel guide. Published by Department of Geography and Regional Planning, University of Uyo, Uyo, Nigeria. Pp1-6.

Edewor, N. (2010). Access to health information by people living with HIV/AIDS in Nigeria. *Library philosophy and practice*

Erica, C. (2008). Barriers to equitable access to quality health information. *Journal of Medicine* (5): 117-123. http://e-health.org/articles.html

Federal Ministry of Health,(2013). 100 000 Nigerian Babies Are HIV Infected Annually. www.news24.com.ng.

Federal Ministry of Health (2010). Technical Report: 2010 National HIV Sero-prevalence Sentinel Survey.

Greenwood, D., Slack, R., Peutherer, J. and Barer, M. (2007) *Medical Microbiology: A Guide to Microbiol. Infections: Pathogenesis, Immunity, Laboratory Diagnosis and Control* (17th edn.) Churchhill Livingstone, Elsevier. pp. 260-269.

Jegede A. S. (1998) *African Culture and Health*. Ibadan. Stirling-Horden Publisher (Nig.) Ltd.Pp12-20.

Kapungwe, A. (2002). The impact of traditional sexual socialization on the spread of HIV/AIDS: The case of puberty rites for adolescent girls in Zambia. *South-South Journal of Culture and Development*, 4(1): 10 – 28.

Kirby, D. B., Laris, B. A., and Rollerie, L. A. (2007). "Sex and HIV education programs. Their impact on sexual behaviours of young people throughout the world". *Journal of. Adolescence Health* 46(3): 206-217.

Modo, I.V.O, Modo, F. N. and Enang, P.I. (2011) Socio-cultural Factors Responsible for Increasing Rate of HIV/AIDS in Akwa Ibom State of Nigeria

Nasidi, A. and Harry, T. O. (2006). *The epidemiology of HIV/AIDS in Nigeria*. Cambridge: Harvard Centre for Population Studies.

Okwilagwe, A.O. (2000). Information Capacity Theory. *Mimeograph* , University of Ibadan.

Pennap, G. R. I., Makut, M. D., Gijar, S. D. and Owuna, G. (2006). Seroprevalence of HIV/AIDS in Keffi patients and its environs. *Nigerian Journal of Microbiology.* 20(3)1141-1145.

Peterson, K. and Obileye, O. (2002). *Access to drugs for HIV/AIDS and related opportunistic infections in Nigeria*. Policy Project. Nigeria: Center for Development and Population Activities (CEDPA).

Prescott, L. M., Harley, J. P. and Klein, D. A. (2008) General Microbiology (7thEdn.) McGraw-Hill International. pp. 925-985.

Population Council (2007).The experience of married adolescent girls in Northern Nigeria. Retrieved Jan 13, 2009 from http://www.avert.org

Udoh, D. I., Onwuchekwa, I. S. and Owoh, U. M. (2009) Isolation of Bacteria and Fungi Responsible for Secondary Infections in People Living with HIV/AIDS in Akwa Ibom State of Nigeria. *International Journal of Biotechnology and Allied Science* 4(1) 534-539.

UNAIDS (2006). United Nations Programme on HIV/AIDS. Overviews at the global AIDS epidemic (PDF) 2006.*Report on the global AIDS epidemic.*

UNAIDS (2008). Donor support for conceptive and condom for STD/HIV prevention. *Nature* 216 (5): 351-353.

UNFPA (2013) HIV/AIDS rate in Akwa Ibom 'too high'. UN- Premium times – *www.premiumtimesng.com.* .

Vass, A. (2001) AIDS now the fourth biggest killer worldwide. *British Medical journal 323(7324) :1271.*

WHO (2006).WHO African region on AIDS in Nigeria. *Nigerian Journal of Infectious Disease.* 201(7): 473-474.

WHO (2007)) World Health Organisation. Global Summary of AIDS epidemic (online) Available from URL: Http://www/WHO.int/hiv/data/ 2008_global_Summary_ AIDS_ep_png.

Yankari report (2013) HIV/AIDS Prevalence: Akwa Ibom to enact Law against stigmatization. *Admin in News. News,* April 3, 2013.