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Seroprevalence of HIV Infection in Kwara, Nigeria

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Abstract: HIV/AIDS has assumed an alarming rate since it was identified and reported in Nigeria. About 3.5 million Nigerians were reported to be living with HIV/AIDS in 2001. This increased to 3.6 million in 2003 and 6 million in 2005. However, the 2008 HIV National Sentinel Seroprevalence Survey among antenatal clinic attendees in Nigeria revealed that 2.9 million people are living with HIV/AIDS in Nigeria, with the least prevalence in Ekiti (1.0%), the highest prevalence in Benue (10.6%) and Kwara (the studied area) with 1.8%. This study aims at assessing a more comprehensive seroprevalence of HIV/AIDS among the general population in Kwara state, Nigeria. This is a retrospective study. Health records on HIV/AIDS of the Kwara State Ministry of Health, HIV/AIDS Control Units were used. The health records comprise of reports from the 16 health facilities providing HIV Counseling and Testing (HCT) Services in the 16 Local Government Areas of the state. The prevalence of HIV/AIDS within the study period among the general population was 5.39%, with near similar prevalence in both sexes (male was 5.47% and female was 5.37%). Results from this study also revealed that more female used the HCT Services in the health facilities. The study shows a higher HIV prevalence among the general population (than the antenatal clinic attendees), but a decline in HIV prevalence in the study population between March, 2007 and December, 2008. HIV prevalence was not different in both sexes, suggesting that both sexes carry equal burden of the disease.

Key words: HIV, AIDS, sex, prevalence, kwara, HCT, Nigeria

INTRODUCTION

Human Immunodeficiency Virus (HIV) is a lentivirus of the retrovirus family that causes Acquired Immunodeficiency Syndrome (AIDS). HIV infection is considered pandemic by World Health Organization (WHO). Since its discovery in 1981 to 2006, AIDS has killed more than 25 million people (Joint United Nations, 2006). In 2005 alone, AIDS claimed about 2.4-3.3 million lives. A third of these deaths occurred in the sub-Saharan African (Greener, 2002). HIV was first reported in United State of America in 1981, but the causative agent was not identified until 1983 (Sharp, 1999; Sepkowitz, 2001; Allen *et al*, 2003; Abdulazeez *et al.*, 2006) and was later name HIV type -1. In 1996, another subtype was discovered in men who

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migrated from Guinea Bissau. This was named HIV type-2 (CHGA, 2004; Abdulazeez, 2004; Richard, 2006). Ever since, HIV infection has become a serious global public health problem, Africa being the hardest hit continent (Abdulazeez and Alo, 2005). An estimated 21.6 to 27.4 million people currently live with HIV in the sub-Saharan Africa (Joint United Nations, 2006). South Africa has the largest number of HIV patients in the world followed by Nigeria and India (UNAIDS, 2006; Neil and Donald, 2007).

HIV/AIDS epidemic has assumed an alarming rate in Nigeria since it was identified in 1985 and reported at an international AIDS conference in 1986 (Adeyi *et al.*, 2006).

The Joint United Nations Programme on HIV/AIDS (UNAIDS) estimates that 3.5 million Nigerian adults and children were living with HIV/AIDS in 2001 (UNAIDS, 2002). This increased to 3.6 million in 2003 (UNAIDS, 2004) and 6 million in 2005 (FMOH, 2005). However, there was a decline in number of people living with HIV/AIDS in Nigeria to 2.6 million by the end of 2007 (UNAIDS, 2008).

The 2008 HIV seroprevalence sentinel survey among the antenatal clinic attendees in Nigeria reveals that 2.98 million of people live with HIV/AIDS in Nigeria with 336,379 new infection (149,095 were male, while 187,284 were female). Overall HIV prevalence in Nigeria was 4.6% with Ekiti state having the least prevalence (1.0%) and Benue with the highest prevalence (10.6%). Kwara state was reported to have 1.8% prevalence. There was a higher urban prevalence than rural in most states (FMOH, 2008).

The seroprevalence of HIV infection varies from one region to another. Hence, this study aims at assessing the seroprevalence of HIV infection among the general population in Kwara state, Nigeria.

MATERIALS AND METHODS

This is a retrospective study done in Kwara state, Nigeria. Kwara state has a land mass of 36,825 km², a population of 2,371,089 (Nigeria Population Census, 2006) and 16 Local Government Areas. The Health records on HIV/AIDS of the Kwara State Ministry of Health, HIV/AIDS Control Unit for years 2007 and 2008 were used for the study. The health records comprise of reports from the 16 health facilities providing HIV Counseling and Testing (HCT) services in the 16 Local Government Areas of the state.

At the various health facilities, data were arrived at after HIV testing was performed using a 2-step algorithm. Determine HIV reagent was used to screen all specimens. Non-reactive samples were reported as HIV negative. Reactive samples were confirmed using Genies II HIV-1 + 2 test Kit. Specimens positive in Genie II tests were reported as HIV-1, HIV-2 or for both. Specimen positive in Determine test and negative in Genie II were reported as discordant. The true sero-status of these samples was determined using Enzyme Immunoassay (EIA) at the quality control retesting.

RESULTS

This present study shows an overall HIV prevalence of 5.39% among the studied population, but a decline in HIV prevalence in the study area from March, 2007 (27.50%) to December, 2008 (2.47%) (Table 1, 2).

The prevalence of HIV/AIDS in this study was not different in both sexes (Table 2), except in March, September, October, November, 2007 and April, 2008 when the prevalence was higher in male.

Table 1: Seroprevalence of HIV/AIDS among the general population in Kwara state, Nigeria

Time period	Total screened	Total male screened	Total female screened	No. of male +ve	No. of female +ve	No. of male -ve	No. of female -ve	Total +ve	Total -ve
2007									
March	160	3 (1.88)	157 (98.12)	2 (66.67)	42 (26.75)	1 (33.33)	115 (73.25)	44 (27.50)	116 (72.50)
April	351	96 (26.74)	255 (71.03)	7 (7.29)	28 (10.98)	89 (92.71)	227 (89.02)	35 (9.97)	316 (90.03)
May	349	0 (0)	349 (100)	0 (0)	16 (4.58)	0 (0)	333 (95.42)	16 (4.58)	333 (95.4)
June	201	9 (4.48)	192 (95.52)	0 (0)	8 (4.17)	9 (100)	184 (95.83)	8 (3.98)	193 (96.02)
July	243	51 (20.90)	192 (78.69)	3 (5.88)	18 (9.35)	48 (94.11)	174 (90.63)	21 (8.64)	222 (91.36)
August	312	31 (9.94)	281 (90.06)	2 (6.45)	5 (1.78)	29 (93.55)	276 (88.22)	7 (2.24)	305 (97.76)
September	302	17 (5.63)	285 (94.37)	52(29.41)	19 (6.67)	12 (70.59)	266 (93.33)	24 (7.95)	278 (92.05)
October	267	22 (8.24)	245 (91.76)	4 (18.18)	27 (11.02)	18 (81.89)	218 (88.98)	31 (11.61)	236(88.39)
November	212	9 (4.25)	203 (95.75)	2 (22.22)	9 (4.43)	7 (77.77)	194 (95.57)	11 (5.19)	201 (94.81)
December	210	15(7.14)	195 (92.86)	0 (0)	18 (9.23)	15 (100)	177 (90.77)	18 (8.57)	192 (91.43)
2008									
January	481	109 (22.66)	372 (77.34)	5 (4.59)	22 (5.91)	104 (95.41)	350 (94.09)	27 (5.61)	454 (94.39)
February	516	117 (22.67)	399 (77.33)	10 (8.55)	28 (7.02)	107 (91.45)	371 (92.98)	38 (7.36)	478 (92.64)
March	430	126 (29.30)	304 (70.70)	9 (7.14)	24 (7.89)	117 (92.86)	280 (92.11)	33 (7.67)	397 (92.33)
April	580	97 (16.72)	483 (83.28)	16 (16.49)	37 (7.66)	81 (83.51)	446 (92.34)	53 (9.14)	527 (90.86)
May	684	155 (22.66)	529 (77.34)	10 (6.45)	29 (5.48)	145 (93.55)	500 (94.52)	39 (5.70)	645 (94.30)
June	978	256 (26.18)	722 (73.82)	19 (7.42)	40 (5.54)	237 (92.58)	682 (94.46)	59 (6.03)	919 (93.97)
July	1117	310 (27.75)	807 (72.25)	14 (4.52)	28 (3.47)	296 (95.48)	779 (96.53)	42 (3.76)	1075 (96.24)
August	1265	257 (20.32)	1008 (79.68)	7 (2.72)	29 (2.88)	250 (97.28)	979 (97.12)	36 (2.85)	1229 (97.15)
September	799	189 (23.65)	610 (76.35)	6 (3.17)	21 (3.44)	183 (96.83)	589 (96.56)	27 (3.38)	772 (96.62)
October	1439	148 (29.05)	1021 (70.95)	18 (4.31)	50 (4.90)	400 (95.69)	971 (95.10)	68 (4.73)	1371 (95.27)
November	1197	310 (25.90)	887 (74.10)	13 (4.19)	40 (4.51)	297 (95.81)	847 (95.49)	53 (4.43)	1144 (95.57)
December	1297	345 (26.60)	952 (73.40)	9 (2.61)	23 (2.42)	336 (97.39)	929 (97.58)	32 (2.47)	1265 (97.53)

Data are shown as number of people (percentage); +ve = HIV positive, -ve = HIV negative

Table 2: Seroprevalence of HIV/AIDS in both sexes in Kwara state, Nigeria

Sex	HIV +ve	HIV -ve	Total
Male	161 (5.47)	2781 (94.33)	2942
Female	561 (5.37)	9887 (94.63)	10448
Total	722 (5.39)	12668 (94.61)	13390

Data are shown as number of people (percentage) covered by the study

Out of a total of about 2.5 million population, only 13,390 people (0.57%) used the HCT facilities within the study period. Of these, 2942 (22.0%) were male, while 10,448 (78.0%) were female (Table 2). However, results from this study reveal that the number of people using the HCT Service increased between March, 2007 and December, 2008, with the least (160 attendees) in March, 2007 and the highest (1439 attendees) in October, 2008. Also, the number of female who used the health facilities within the study period was higher than the male.

DISCUSSION

The result of this present study shows a higher HIV prevalence (5.39%) among the general population in Kwara state, Nigeria. However, this value is at variance with that of the sentinel survey reported to be 1.8% (UNAIDS, 2008). The discrepancy could be associated with the study population used, which is not limited to the antenatal attendees alone. This study considered both males and females who used the HCT services in the 16 health facilities within the state, while the sentinel survey (UNAIDS, 2008) considered only pregnant women between 15 and 49 years who are attending the antenatal clinic for the first time for the index pregnancy, thereby limiting the size of the population in the sentinel survey. This is similar to the study of Glynn *et al.* (2001) that reported that the HIV prevalence in Yaoundé and Ndola among antenatal attendees was lower than that in

women in the population overall. The result from this study is also in consonance with previous studies of Buve *et al.* (2001) that reported HIV prevalence of 3.3 and 4.1% in Cotonou, Benin Republic and Yaoundé, Cameroun respectively. However, higher values of HIV prevalence in eastern Africa were reported as 12.9% in 1997 and 8.5% in 2002 (Asamoah-Odei *et al.*, 2004). Buvé *et al.* (2001) also reported the prevalence of HIV among men and women to be 19.8 and 23.0% respectively in Kisumu, Kenya and 23.2 and 15.4% respectively in Ndola, Zambia. This study in comparison with other studies in the western, eastern and central southern part of Africa shows a lower prevalence in West Africa. The lower prevalence of HIV in the western part of Africa has also been reported by Buve *et al.* (2002). It was reported that the differences in the spread of the epidemic can be accounted for by a complex interplay of sexual behaviour and biological factors that affect the chances of HIV transmission per sex act (Buve *et al.*, 2002).

This study also revealed that during the study period, there was not much gender difference in the prevalence of HIV, except in March, September, October, November, 2007 and April, 2008 when the prevalence was higher in male. This suggests that both sexes are at equal risk of contracting the infection. This is not in agreement with the study of Gupta *et al.* (1996) that reported stereotypical gender roles which place young women and to a lesser extent, young men, at higher risk of HIV infection, since they have little control over how, when and where sex takes place. Gupta *et al.* (1996) also reported that most young women engage in risky sexual behavior, such as anal sex, in an attempt to keep their virginity, thus making them more susceptible to contracting the virus. Balmer *et al.* (1997) reported that young Kenyan women felt that they did not have control over their sexuality and are unable to communicate their need for safe sex with their partners. In a review conducted in seven countries including Nigeria, Egypt, Mexico and the Philippines, sexually active young women who are aware of HIV/AIDS and measures to protect against it rarely have the power to ensure that condoms are used (Petchesky and Judd, 1998). UNAIDS (2001) also reported that a variety of factors increase the vulnerability of women and girls to HIV. They include social norms that deny women sexual health knowledge, practices that prevent them from deciding the terms on which they have sex, limited access to economic opportunities and autonomy and the multiple household and community roles they are saddled with.

HCT services provide opportunities for people to know their HIV status with quality counseling support to help them cope with a positive or negative test result. The result from this study shows that only 0.57% of the total population used the services. However, results from this study reveal that the number of people using the HCT Service increased between March, 2007 and December, 2008, with the least (160 attendees) in March, 2007 and the highest (1439 attendees) in October, 2008. This could suggest increase awareness and response of people to HCT Services. The number of female who used the health facilities within the study period was higher than the male. This shows a better response of the feminine gender to HCT services.

CONCLUSION

The study shows a higher HIV prevalence among the general population (than the antenatal attendees) in the study area, but a decline in the prevalence of HIV in the study population from 2007 to 2008. HIV prevalence was not different in both sexes, suggesting that both sexes carry equal burden of the disease.

RECOMMENDATION

The sentinel survey should be strengthened and expanded to include both male and female using various HCT services within the country. This will show a near actual prevalence of HIV/AIDS in the country and would be helpful in the prevention and management of the infection. HIV/AIDS education curricula should be introduced to schools and media campaign activities intensified to increase the use of the HCT services.

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