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Short communication

Seroprevalence of Human Immunodeficiency Virus (HIV) Infection in Pregnant Women in Amassoma, Nigeria.

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ABSTRACT

This study was conducted to establish the prevalence rate of HIV amongst pregnant women and to determine the risk to which their neonates are exposed in our centre. Anonymous and unlinked blood samples of 277 pregnant women attending antenatal clinic between the period of January 2005 – December 2006 at the Amassoma General Hospital in Southern Ijaw local government area of the Niger Delta region of Bayelsa State; Nigeria were tested for HIV – 1. The women had a mean age of 26.0 ± 0.38 (range 15 - 44 years). The prevalence of HIV-1 in the pregnant women was 3.96%.

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Key words: - HIV, AIDS, Nigeria, virus, epidemiology

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INTRODUCTION

There is a rising prevalence of Human Immunodeficiency Virus (HIV) world wide. HIV infection among pregnant women poses particular risks to their family, offspring and health workers at the time of delivery. Potential mother to child transmission of HIV (vertical transmission) is a major concern, because of the attendant consequences of morbidity and mortality of these infections [Karim, *et al*, 2002].

The epidemic varies with geographic region based on 2002 data, Sub-Saharan Africa had the highest number of HIV infections [Karim, *et al*, 2002]. Infections were spreading rapidly also in Southern and South Eastern Asia especially in India, Cambodia and China [Karim *et al* 2002]. Because AIDS tend to strike young adults and workers in their prime, the AIDS epidemic is having devastating effects on social and economic structure in some countries. The World Health Organization estimates that of 5 million new HIV infections each year, 90% are occurring in developing countries. In those countries AIDS is overwhelmingly a heterosexually transmitted disease and there are about equal numbers of male and female cases [Karim, *et al* 2002, WHO/UNAIDS, 1999].

Additionally, Sub-Saharan Africa harbours about two-third of the world 42 million people living with HIV/AIDS. Of the 600,000 children who are infected with HIV annually, 90% acquire the infection from their mothers at birth [Karim *et al*, 2002, WHO/UNAIDS, 1999]. Reported rates of transmission of HIV from mother to child range from 15 to over 40% in the absence of antiretroviral treatment [WHO/UNAIDS, 1999].

Appropriate intervention strategies such as the use of antiretroviral drugs during pregnancy and at delivery, reduction in peripartum blood exposure and avoidance of breast feeding have been advocated to reduce transmission of HIV from mother to child [WHO/UNAIDS, 1999].

The prevalence of HIV among pregnant mothers in Nigeria is high yet most states lack the resources to adequately implement universal precautions. Also, lack of qualified health workers compared to increasing number of patients has

compounded the problem of good antenatal care in most of our hospitals. The scarcity of data on the prevalence of HIV in many states in Nigeria makes planning of prevention and intervention strategies more difficult [Sagay *et al*, 1999].

In order to form policy strategies related to implementation of preventive measures to reduce perinatal HIV transmission, we sought to establish the seroprevalence of HIV infections among pregnant women attending antenatal clinic in Amassoma General Hospital, the Niger Delta region of Nigeria.

METHODOLOGY:

Anonymous unlinked blood samples of 277 pregnant women attending antenatal clinic at the Amassoma General Hospital Wilberforce Island in the Niger Delta region of Nigeria between January 2005 and December 2006. The hospital render antenatal and referral services in the Southern Ijaw geopolitical zone of Ijaw local government area of Bayelsa State. HIV screening was offered to pregnant women who booked for antenatal care, and those who tested positive were offered free antiretroviral prophylaxis after confirmation.

The anonymous unlinked blood samples used for testing were collected from the women during antenatal visit after obtaining informed consent and approval from the ethical committee of the hospital. Serum was obtained after centrifugation and stored in aliquots of 1ml at -20°C until transported on ice to the laboratory.

Antibodies to Human Immunodeficiency Virus type 1 (HIV – 1) were measured using EIA technique (capilose determine methods). Positive serum samples were confirmed by Western Blot technique.

Statistical analysis was performed using Epi info 6.0c version. The values were calculated using Chi-square method for comparison of the variables. A P - value of less than 0.05 was considered significant.

RESULTS AND DISCUSSION

The mean age of the 277 pregnant women was 26 ± 0.38 (range 15 – 44 years). Eleven subjects

(3.96%) were positive for HIV. Four subjects were undetermined for HIV. Infection was reported in all age groups except between 25 and 29 years as shown in table 1. The age group 20 – 24 and 30 – 34 years had the highest number of positive cases. An overall Chi-squared analysis of table 1 showed significant difference between the age groups with respect to HIV infection ($\chi^2=20.83$ (10df) $P<0.0223$)

Table 1

Comparison of Age Range between HIV Positive and Negative Women.

Age Group	No. of Women Screened -ve (%)	No. of Women Screened +ve (%)	Undetermined
15 – 19	35(12.64)	2(0.72)	3 (1.08)
20 – 24	83(29.96)	3(1.08)	-
25 – 29	72(25.99)	-(0.00)	-
30 – 34	40(14.44)	3(1.08)	-
35 – 39	25(9.03)	2(0.72)	1 (0.36)
40 – 44	7(2.53)	1(0.36)	-
Total	262(94.59)	11(3.96)	4(1.44)

Chi-Square analysis of age groups $\chi^2=20.83$ (10df), P-Value = 0.0223, $P< 0.05$ significant.

Nearly 4% of the women in the study were HIV positive, indicating that HIV is still a major public health problem among women of reproductive age in Amassoma in Southern Ijaw local government area of the Niger Delta region. The prevalence observed (3.94%) is similar to 3% described among pregnant women aged 18 – 44

years in Jos, Plateau region, in a recent Nigeria HIV/AIDS indication survey [Sagay *et al*, 1999].

Given the high antenatal attendance rate in the area under study, women attending antenatal care clinic between 2005 to 2006, can be used as a sentinel surveillance population in monitoring trends of HIV infection among adults aged 15 – 44 years despite its known limitations. The study showed that HIV prevalence is greater among women aged between 20 – 24 and 30 – 34 years.

HIV infection among pregnant women in this study is however lower than 11.1%, 13.3% and 21% recorded in 1999 for pregnant women in Ebonyi, Akwa Ibom and Benue State, respectively [Sagay *et al*, 1999; National HIV Survey, 1999; Imade *et al*, 2004].

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