

Human Immuno-Deficiency Virus Antibody Seroprevalence among Pregnant Women at Booking at a University Teaching Hospital in South-Eastern Nigeria

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ABSTRACT

BACKGROUND: *In Africa*, human immuno-deficiency virus (HIV) infection continues to be progressively feminized. This has led to an increase in the number of paediatric HIV infections reported due to increased risk of mother-to-child transmission (MTCT) of HIV during pregnancy, labour and breastfeeding.

OBJECTIVE: *The objective of the study was to determine the HIV positive sero-prevalence at booking among pregnant women at the Imo State University Teaching Hospital, Orlu.*

METHODS: *A retrospective analysis of the case records of women who booked and were screened for Human Immune-deficiency Virus at the Imo State University Teaching Hospital (IMSUTH), Orlu from 1st March 2008 to 28th February 2010 was done. Data on age, parity, educational status, gestational age at booking, and retroviral status were collected and analysed using spss version 13.*

RESULTS: *Nine hundred and twenty one pregnant women were screened for the presence of HIV 1 & 2 antibodies in their serum. One hundred and six of them were positive, giving a sero-prevalence rate at booking of 11.5%. The highest sero prevalence rate of 45.2% occurred in the age group of 26-30years.*

Petty traders contributed 97 (91.5%) of the HIV positive women, while multiparous (para 2-4) women contributed 50% of the positive pregnant women.

Only 32 (30.2%) of the HIV positive women booked within the first trimester for antenatal care. Majority 53 (59.4%) of the HIV positive women had secondary education, while those that had no formal education contributed only 6 (5.7%) of the HIV positive women.

CONCLUSION: *There was a high HIV seroprevalence at booking among pregnant women at IMSUTH, Orlu. A lot more needs to be done in order to reduce vertical transmission of HIV in our environment.*

KEY WORDS: *HIV positive sero-prevalence, booking, Orlu.*

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INTRODUCTION

Sub-Saharan Africa remains the region most heavily affected by HIV infection. In 2008, sub-Saharan Africa accounted for 67% of HIV infections worldwide, 68% of new HIV infections among adults and 91% of new HIV infections among children.¹ The region also accounted for 72% of the world's AIDS-related deaths in 2008.¹ The

epidemic continues to have an enormous impact on households, communities, businesses, public services and national economies in the region. Women and girls continue to be affected disproportionately by HIV in sub-Saharan Africa probably due to large mucosal exposure to semen, biology of the HIV virus, poverty / low socio-economic status. Other factors are high prevalence of non-consensual sex, non use of condom use and high-risk behavior of partners.¹ Infact in 2009, women accounted for 56 percent of all adults aged 15 years and above living with the virus in Nigeria.² In Nigeria, since the first two cases of HIV/AIDS were identified in 1985, the epidemic has been on the increase.^{3,4}

An estimated 3.6 percent of the Nigerian population are living with HIV/AIDS.² Although HIV prevalence is much lower in Nigeria than in other African countries such as South Africa and Zambia, the size of Nigeria's population (around 149 million) means that by the end of 2009, there were 3.3 million people living with HIV.⁵

Approximately 220,000 people died from AIDS in Nigeria in 2009.⁵ This has caused a significant decline in Nigeria's life expectancy. In 1991 the average life expectancy was 54 years for women and 53 years for men.⁶ These figures had fallen to 48 for women and 46 for men in 2009.⁷

The current National sero-prevalence of HIV among antenatal women is 4.1% with prevalence ranging from 1.0% in Kebbi to 12.7% in Benue state.⁸ This showed a marginal decline over the 2008 sentinel survey seroprevalence rate of 4.6%.

The estimated mother- to- child- transmission (MTCT) of HIV is about 15-20% for HIV positive mothers who do not breastfeed and 25-45% for those who breastfeed.³

The main purpose of testing a pregnant woman for the presence of HIV antibodies is to take actions that will reduce or if possible eliminate the risk of MTCT.^{9,10} Thus the main objective of this study is to determine the seroprevalence of HIV antibody among pregnant women at booking for antenatal care at the Imo State University Teaching hospital, Orlu. As no previous study has been done in this institution, our study will provide baseline data, determine the magnitude of the problem and make recommendations on how to reduce the prevalence rate.

METHODOLOGY

Imo State University Teaching Hospital is located in

Umuna, Orlu, in Orlu Local Government Area of Imo State. The teaching hospital is a major referral centre serving the whole of Imo State and its environs. It is one of collaborating centres for institute of human virology of Nigeria (IHVN). Voluntary counseling and testing with opt-out option are offered to the pregnant women at booking. The testing is done in parallel with two different types of kit and a third one used as a 'tie braker' if there is a discordance between the two results.

A retrospective analysis of the case records of pregnant women who booked for antenatal care and were screened for HIV at IMSUTH between 1st March 2008 and 28th February 2010 was made. Data on age, parity, gestational age at booking, and retroviral status were retrieved and analysed using spss version 13.

RESULTS

Out of the 921 pregnant women who were screened at booking within the study period, 106 (11.5%) of them tested and were confirmed positive to HIV 1 & 2 antibodies. The highest sero-prevalence rate was among the age group of 26-30years where 48 (45.2%) were sero-positive.

Table : Socio-demographic characteristics

Characteristics	No	%
Age group		
</=20	7	6.6
21-25	15	14.2
26-30	48	45.2
31-35	21	19.8
36-40	15	14.2
Occupation		
House wife	0	0
Petty trader	97	91.5
Professional	9	8.5
Student	0	0
Parity		
0 and 1	38	35.8
2-4	53	50
> 4	15	14.2
Gestational age (weeks)		
1-13	32	30.2
14-28	52	49.0
29-Term	22	20.8
Educational status		
None	6	5.7
Primary	28	26.4
Secondary	53	59.4
Post-secondary	9	8.5

The HIV sero-prevalence rate was significantly highest among the petty traders who contributed 97 (91.5%), followed by professionals (8.5%). There was none among full time house wives and students.

The majority, 624 (67.8%) of the women studied were of low parity (nullipara and primipara) and contributed 38 (35.8%) of the HIV positive women. The multiparous women (para 2-4) who contributed only 152 (16.5%) of the study population, contributed 53 (50%) of the HIV positive pregnant women. The remaining 15 (14.2%) of the HIV positive women were contributed by grand-multiparous women.

Only 32 (30.2%) of the HIV positive women booked early (within the first trimester), while the majority 74 (69.8%) booked late for antenatal care.

More than half, 63(59.4%) of the HIV positive women had secondary education, while those that had no formal education contributed only 6 (5.7%) of the positive women.

DISCUSSION

The major findings in the study is an antenatal prevalence at booking of 11.5%, with the age group 26-30 contributing 45.2% of cases. The 2010 Nigerian national sentinel sero-prevalence rate among antenatal women of 4.1% shows a marginal reduction over the rate of 4.6% in 2008.⁸ The sero-prevalence rate among pregnant women at booking of 11.5% in this study is very high when compared to Nigerian national sero-prevalence rate. It is more than 2.5 folds of the current (2010) national sero-prevalence rate of 4.1% among antenatal women.⁸ It is also higher than the records of 2.7-8.3% from other centres in the country.¹¹⁻¹⁶ It is however lower than the 19.1% reported from Makurdi.¹⁷

The high prevalence rate in Nigeria is alarming as it does not reflect the concerted efforts by the international community, Federal, state and local governments to curb the menace of HIV/AIDS. However it must be acknowledged that the high prevalence rate in the centre may also be a reflection of an increase in the awareness and acceptance of HIV screening among the study population coupled with the fact that screening is free of charge in the institution. The sero-prevalence rate in Nigeria is comparable to other African countries which ranges from 6 to 39%.¹⁸

HIV sero-prevalence rates in antenatal women is a good indicator of the rate of infection in a community.^{19,20} Thus this study suggests that the sero-prevalence of HIV in the general population in Orlu may be around 11.5%. The fact that this hospital serves as a referral centre may contribute to this high percentage of sero-positivity as most private practitioners refer HIV positive women.

A previous sero-prevalence study at delivery done in the

centre gave a lower sero-prevalence rate of 6.9% at delivery.²¹ This marked difference between the sero-prevalence of HIV at booking and at delivery means that a good number of HIV positive women diagnosed at booking are lost to follow-up. This loss to follow-up could be due to fear of stigmatization, rejection and abuse by hospital staff. It could also be due to lack of adequate counseling when the diagnosis was made. The implication of this is that there will be a subsequent lack of good antenatal care, non-use of mother-to-child preventive measures for HIV/AIDS and consequent high paediatric HIV infections through vertical means. There could also be an increased spread of the virus to the unsuspecting husband/public who may not be aware of the positive HIV status of these pregnant women with its consequent rise in the general HIV infection.

The study also revealed that the majority (59.4%) of the HIV positive women were in the peak age of reproductive life of 21-30 years. This is similar to other findings in Nigeria.^{17,22,23}

The finding that a major percentage of the HIV positive pregnant women were multiparous in this study is in consonance with previous studies^{17,21} but different from another study from PortHarcourt in which the major percentage (69.7%) were found among women in their first pregnancy. The possible explanation to this is not clear, but the different study populations of the two studies may contribute to it.

As in other studies,^{17,22} majority (69.8%) of the HIV positive patients registered late (after the first trimester) for antenatal care. This however reflects the general attitude of the women in the study population to register late for antenatal care. This finding is unsatisfactory as the women may not benefit from the gains of early antenatal care. Likewise, majority of the women had secondary education as in another study from Maurdi.¹⁷ This moderate level of education of these women can help in understanding of the various intervention programmes in preventing MTCT of HIV.

In conclusion, the maternal sero-prevalence rate of HIV at booking is high and 4.6% do not continue with the antenatal care after diagnosis. There is a need to ratchet up the various intervention strategies in order to reduce the prevalence rate. There is a need to trace those who defaulted after testing positive in order to make sure they avail themselves of subsidized treatment available. This will not only keep them healthy but reduce the mother to child transmission of HIV. These measures are necessary if we are to achieve the Nigerian 2003 AIDS policy for prevention of mother-to-child transmission of HIV.³

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