Journal of Gynecology and Obstetrics
2026, Vol. 14, No. 5, pp. 108–113
https://doi.org/10.11648/j.jgo.20261405.12

Research Article

The Prevalence of HIV Infection Among Women Attending Antenatal Clinics in the University of Uyo Teaching Hospital: A Five-year Review

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Abstract

Background: Human immunodeficiency virus (HIV) attacks the body's immune system and, when undiagnosed and untreated, may lead to adverse consequences. In pregnancy, HIV may lead to many adverse consequences, including mother-to-child transmission (PMTCT). Objective: To determine the prevalence and sociodemographic factors associated with HIV infection among pregnant women receiving antenatal care in the University of Uyo Teaching Hospital. Methodology: We reviewed the antenatal clinic, voluntary counselling and testing register, and partner notification registers for all booked patients who accessed antenatal care at the facility over five years; extracted, coded, and analysed the data. Results: A total of 9062 new patients registered for antenatal care during the period; 476 were HIV-positive, giving a prevalence rate of 5.3%. Three hundred and sixty-seven (77.1%) of the HIV infected women were already aware of their HIV status and on treatment, while 22.9% were newly diagnosed. Of these, 343 (72.1%) had started antiretroviral drugs (ARVs) before booking for antenatal care, 26.2% started them after diagnosis at booking, and 1.7% declined ARVs; partner notification was 81.3%. Most (70.2%) of the patients were 25-34years, multiparous (45.8%) and married (93.9%). While 11.7% had no formal education, 72.5% had at least a secondary level of education, were civil servants (55.2%), and lived in urban areas (59.8%). Conclusion: The prevalence of HIV infection was high. There is a need for emphasis on primary prevention strategies tailored toward women in the older group aged 25-34 years, partner notification, and ARV acceptance for treatment and Prevention of mother-to-child transmission (PMTCT).

Keywords

HIV, Pregnancy, PMTCT

1. Introduction

Human Immunodeficiency Virus (HIV) infection among pregnant women has been associated with several adverse maternal, perinatal, and infant outcomes. Nigeria accounts for about 10% of the HIV/AIDS burden worldwide and has the second-highest incidence of HIV infections among women globally. [1] The first case of AIDS in Nigeria was reported in

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Received: 23 September 2026; **Accepted:** 8 October 2026; **Published:** 28 October 2026

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1986. Since then, HIV prevalence has increased exponentially until it peaked at 5.8% in 2001 before progressively declining over the years down to 4.1% in 2010. [2] A later survey indicated a national HIV prevalence in Nigeria of 1.4% among adults aged 15-49 years, after previous estimates had indicated a national HIV prevalence of 2.8% while UNAIDS and the National Agency for the Control of AIDS estimated that 1.9 million people living with HIV were in Nigeria then [3].

African women of childbearing age are particularly vulnerable to HIV, possibly due to early marriage and some cultural practices like female genital mutilation, which may expose women to contracting HIV and poverty, which leads them to promiscuous acts. In Akwa-Ibom State, located within the South-South geopolitical region of Nigeria, the HIV prevalence among adults was 4.8%, with a significantly higher prevalence among females (5.6%) than males (3.7%) and an overall incidence of 0.41% [4].

In pregnant women, Human immunodeficiency virus infection has several adverse effects on both the mother and the foetus. Prematurity, low birth weight, intra-uterine growth restriction, spontaneous abortions, foetal abnormality, and neonatal sepsis have all been reported to be increased in HIV affected pregnancies. [5] In addition, there is an increased risk of vertical or mother-to-child transmission (MTCT) of the virus, which is currently estimated at 20-45% in sub-Saharan Africa. [6] Mother-to-child transmission of HIV currently accounts for over 95% of infections in children, and sadly, most reports indicate that 35-59% of African children infected with HIV die before their second birthday [7].

The prevalence of HIV among antenatal attendees in the University of Uyo Teaching Hospital was last studied more than 10 years ago, [8] when the Hospital was just transitioning to tertiary centre status from its previous Secondary facility status. We sought to review the records, compare them with the past as well as State and National records, as there is currently no recent local data on this.

2. Materials and Methods

This retrospective study was carried out at the HIV unit of the antenatal clinic of UUTH, Uyo. Folders of patients and the following registers: voluntary counselling and testing (VCT) register, the partner notification and the antenatal clinic registers of all patients who booked for antenatal care in the hospital between 1st January 2016 and 31st December 2020 were retrieved, and data were extracted for the study. The information obtained included age, parity, gestational age at booking, marital status, occupation, area of residence, level of education, results of HIV testing, timing of HIV diagnosis, and willingness to notify their partners. The data extracted were analysed using the Statistical Package for the Social Sciences (SPSS) IBM version 24.0, and results obtained were presented as frequency tables, which formed the basis of the conclusions.

3. Results

During the study period, 9062 new women booked for antenatal care, among whom 476 tested positive to HIV, resulting in an HIV prevalence of 5.3%. Of the 476 women, 367 (77.1%) were diagnosed before their current pregnancy, while 109 (22.9%) were diagnosed for the first time in the index pregnancy.

Most of the patients (70.2%) were aged 25-34 years. Seventy-six percent of the women had delivered at least once (>70.0%), while 247 patients (51.9%) booked for antenatal care in the second trimester, and the majority (93.7%) of the women were Christians, whereas 6.3% were Muslims. Fifty-nine per cent of patients lived in urban areas, while most of the attendees of the antenatal clinic, 184 (38.7%) had secondary level of education; 161 (33.8%) and 75 (15.8%) had post-secondary and primary education, respectively. 56 (11.7%) had no formal education. Most of the patients were civil servants, 263 (55.2%), and 68 (14.3%) were hairdressers; thirty percent were either farmers, traders, or housewives. (Table 1).

Table 1. *SOCIODEMOGRAPHIC PROFILE OF PARTICIPANTS N=476.*

Variable	NO (%)
AGE (YEARS)	
15-24	16 (3.3)
25-34	334 (70.2)
35-44	126 (26.5)
≥45	0 (0.0)
PARITY	
0	113 (23.7)
1	145 (30.5)
2	143 (30.0)
3	57 (12.0)
4	16 (3.4)
≥5	2 (0.4)
GESTATIONAL AGE AT BOOKING (WEEKS)	
<14	110 (23.1)
14-<28	247 (51.9)
28-40	119 (25.0)
RELIGION	
Christian	446 (93.7)
Muslim	30 (6.3)
Others	0 (0.0)
EDUCATIONAL STATUS	

Variable	NO (%)
None	56 (11.7)
Primary	75 (15.8)
Secondary	184 (38.7)
Post-secondary	161 (33.8)
AREA OF RESIDENCE	
Urban	285 (59.9)
Rural	191 (40.1)
OCCUPATION	
Civil servant	263 (55.2)
Hairdresser	68 (14.3)
Housewife	50 (10.5)
Trader	45 (9.5)
Farmer	30 (6.3)
Seamstress	20 (4.2)

Out of 476 patients, 449 were married, and 387 notified their spouses of their HIV status as shown in Table 2.

Table 2. MARITAL STATUS PARTNER NOTIFICATION OF SERO-POSITIVE PATIENTS N= 476.

MARITAL STATUS	
Married	449 (93.9)
Single	27 (5.7)
Divorced	15 (3.2)
PARTNER NOTIFICATION (N=476)	
Notified	387 (81.3)
Not-notified	89 (18.7)

A total of 468 (98.3%0 patients received ARVs. 343 (72.1%) were already taking their ARVs before pregnancy while 125 (26.3%) commenced theirs during pregnancy, however, 8 (1.7%) refused taking ARVs. (Figure 1).

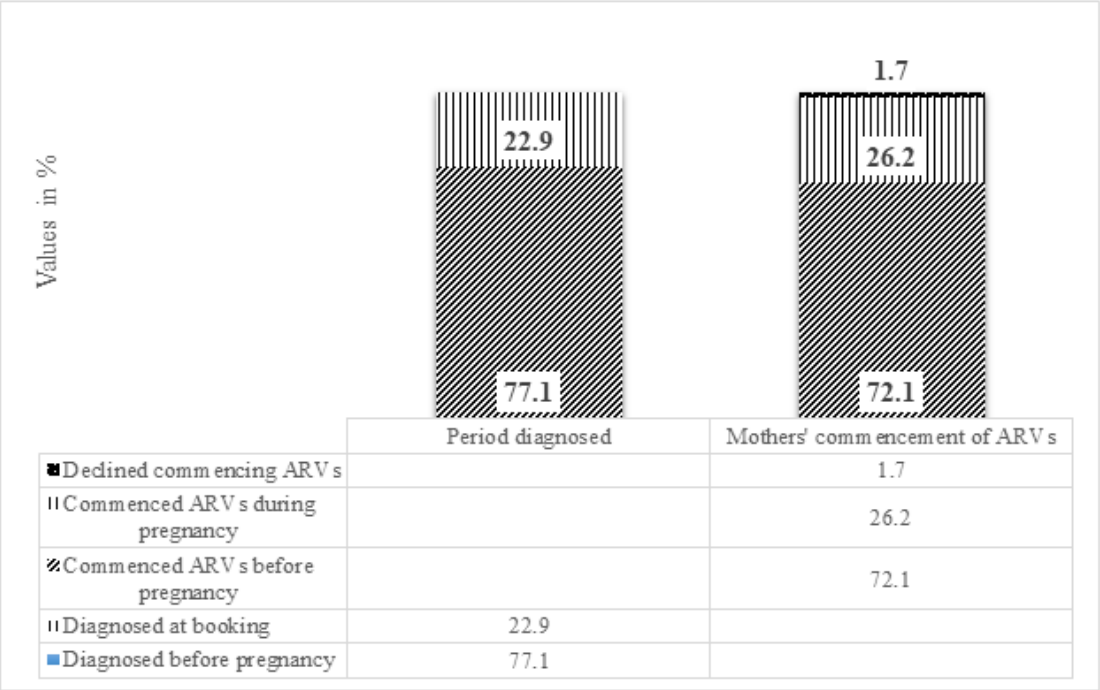

Figure 1. Time of Diagnosis and Mothers' Commencement of ARVs N=476.

The majority of their spouses were civil servants, 184 (38.6%), while 31.3% were married to drivers and 16.8%, 10.1%, and 3.2% had traders, labourers, and farmers as spouses, respectively. (Figure 2).

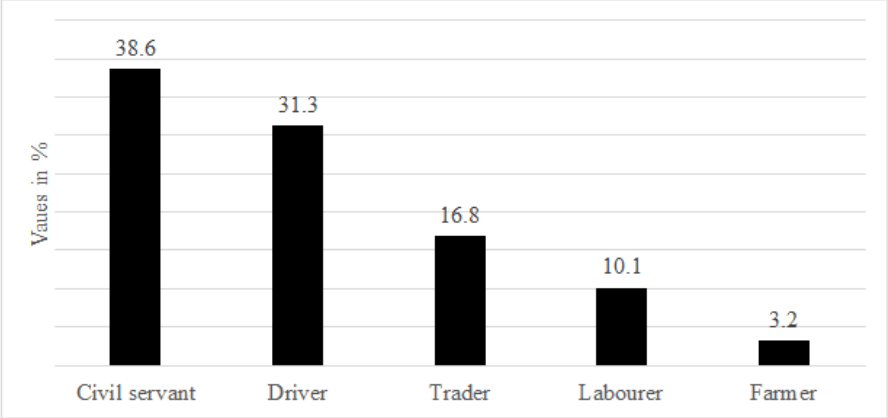

Figure 2. *Occupation of Spouses of HIV antenatal attendees in the University of Uyo Teaching Hospital.*

All the patients accepted the HIV test. Four hundred and seventy-one (99.0%) patients were recorded to have had individual post- test counselling, while all the patients (100.0%) had infant feeding options discussed.

4. Discussion

This study reveals that the prevalence of HIV infection was 5.3% among the women attending antenatal clinics in our centre; however, the prevalence was lower than that observed by Abasiattai et al in 2007 from a study that was previously done in this centre, in which he had a prevalence of 8.2% and most of the women (87.9%) were diagnosed for the first time in pregnancy in the ANCs and another study carried out in Ogun State where the prevalence was 7.7%. [8, 9] The UUTH HIV prevalence of 5.3% is higher than the National prevalence of 1.4%, probably because of the smaller population, but it was not significantly different from the Akwa Ibom State HIV prevalence of 5.1% in 2018. [10] This may probably be a direct reflection of the situation in Akwa Ibom State as shown in the recent National HIV Sentinel Survey. [3]. Another possible reason for the slightly higher prevalence in the hospital may be its being a referral and treatment centre for HIV both in the general population and in pregnancy as a tertiary health facility.

About 70% of the women in this study were aged 25-34years. This may result from the fact that within this age range, there is an increase in sexual activity amongst youths, which may lead to increased exposure to diseases that are sexually transmitted, including HIV.

It was observed that partner notification improved to 81.3% compared to 38.8% in a previous study in this centre. [8] This remarkable improvement in the facility is most likely because of the increased awareness and counselling offered to pregnant women in the antenatal setting, and the understanding that if their partners are informed of their serostatus, it will lead to improved uptake of interventions to reduce mother-to-child HIV transmission. A study among pregnant women in Nairobi found that 10% of HIV-1-seropositive women came with partners for VCT; these women had a 3-fold likelihood of returning for nevirapine. [11] The fear of domestic violence, abandonment, stigmatization, social ostracism, and fear of accusations of infidelity and abandonment is frequently cited as a reason why not all women inform their spouse/partner about their HIV status [12, 13]. When this important information is concealed, it undermines the chance of an uninfected partner to adequately protect himself and an infected one who may not know his status to receive care.

All the women in our centre agreed to be tested for HIV. This is because HIV testing and counselling (HTC) ('opt-out' method) is offered to all women who book for antenatal care. A study by Ekanem and Gbadegesin showed that the majority of women (96.1%) were willing to undergo HIV testing in pregnancy, especially if it would assist in preventing transmission of HIV to their babies. [14] Another study carried out in a Northern Nigeria Tertiary centre showed that the majority of respondents were aware of HIV testing and counselling (HTC) and approved of it, as it plays a pivotal role in specific prevention of mother-to-child transmission (PMTCT) interventions, as these interventions depend on the woman knowing her HIV status. [15] It provides an opportunity for early diagnosis of HIV infection and therefore access to comprehensive.

Prevention of mother-to-child transmission of HIV is most effective when antiretroviral drugs are received by the mother during pregnancy and continued through delivery and then administered to the infant after birth. [16, 17] In the absence of intervention, the rate of transmission of HIV from a mother living with HIV to her child during pregnancy, labour, delivery, or breastfeeding ranges from 15% to 45% [18].

The antiretroviral medication (ARVs) compliance in this study was higher at 98.3% when compared to the previous study (36.9%) carried out in the same centre earlier. [8] This marked improvement may, as postulated previously may be the result of the assistance of the Federal Government of Nigeria and foreign non-Governmental organisations' interventions.

Results from this study showed that women whose spouses

were drivers and civil servants were more predominant among those infected with HIV, just as there were more married and educated women among them. This was similar to findings from other studies. [19, 20] This may be due to the possibility that long-distance drivers were likely to sleep outside their homes and engage in multiple extra-marital sexual relationships, while civil servants have a greater chance of making friends in their various offices, exposing them to illicit sex. Also, female well-employed breadwinning wives may lose intimacy with their spouse due to their financial contributions, predisposing them to a choice of extra-marital relationships.

In conclusion, although the prevalence of HIV among women attending antenatal clinics in the UUTH is decreasing compared to an earlier study done in this centre, it is still high when compared to the National prevalence. There is therefore a need for targeted efforts at local levels towards prevention, diagnosis, and treatment. Furthermore, effort at encouraging the women to reveal their serostatus to their partners and be compliant with their ARVs will go a long way in preventing mother-to-child transmission of HIV. There is also a need for another review to document the current trend, compare it to this and make further recommendations in relation to statewide and current National prevalences.

Abbreviations

ARVs	Antiretroviral Drugs
HIV	Human Immunodeficiency Virus
HTC	HIV Testing and Counselling
MTCT	Mother-to-child-transmission
PMTCT	Prevention Ot Mothr-to-child-transmission
VCT	Voluntary Counselling and Treatment

Author Contributions

Effiong Maria Bassey: Conceptualization
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Eyibio Mary Richard: Methodology
Elujekwute Michael Chinedu: Data curation
Matthias Gabriel Abah: Formal Analysis, Resources

Conflicts of Interest

The authors declare no conflicts of interest.

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