# HIV - POSITIVE WOMEN IN LABOUR ROOM IN JOS, NIGERIA

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## ABSTRACT

***Background :*** Human Immunodeficiency Virus (HIV) and Acquired Immune Deficiency Syndrome (AIDS) are commonly encountered by health practitioners in Nigeria. Unfortunately, the HIV positive status does not limit the fertility of a woman. Healthy looking women, infected with HIV are not uncommon in the antenatal clinic and the labour room.

**Objective:** The objective of this study was to determine trend of HIV-positive pregnant women presenting in the labour room. To determine how many staff were infected. Proffer suggestions on how to minimize the spread if found to be rising in pregnant mothers in labour. Also, to draw the attention of attending physicians, midwives and hospital authorities to the need for urgent protection from infection with the viruses.

**Methods:** This retrospective study was conducted from January 1998 to December 2003. The information was obtained from 159 patient records of the labour room of the Jos University Teaching Hospital, Jos, Nigeria. The HIV status was already confirmed antenatally. Record of HIV-positive patients were retrieved and analyzed. The record of staff at risk was also determined.

**Results:** During the period under review, January 1998 to December 2003, 15,282 deliveries took place and 159 HIV-positive women were admitted into the maternity unit of the Jos University Teaching Hospital for labour and delivery. The study showed that from 2 cases reported in 1998, the proportion of patients with HIV had been on the increase. The incidence has risen astronomically from 0.1% to the present figure of 1.9%, or 32 per 1,673 deliveries in 2003. The age range of the patients was from 18 to 36 years with a mean of 26.4 years. All patients were married.

**Conclusion:** The number of HIV positive patients seen and managed for labour and delivery is rapidly increasing. Labour rooms need to be better equipped with preventive measures in order to protect the lives of the personnel performing their obligatory responsibilities in this all-important part of a hospital.

**Key Words**: - Human Immunodefiency Virus (HIV), Acquired Immune Deficiency Syndrome (AIDS), labour room, Nevirapine, Jos-Nigeria.

## INTRODUCTION

Over the last two decades, HIV/AIDS pandemics have emerged as one of the leading global public health issues[1]. Sub-Saharan Africa accounts for over 60% of the 40 million adults and children living with HIV/AIDS (PLWHA)[1,2]. By the year 2001, almost half of the new HIV infections were amongst women, and it was estimated that about 6 million pregnant women had been infected by HIV[2]. However, the prevalence of HIV in antenatal women varies from region to region.

Pregnancy can augment the disease progression because immune function is suppressed during pregnancy, leading to decreased immunoglobulins, complement levels, and cell mediated immunity[8]. CD4 counts decrease during pregnancy and do not return to normal after delivery in HIV positive women.

Mother to child transmission (MTCT) is becoming a major concern worldwide[3]; and is now recognized as the second leading cause of new HIV infections worldwide, the first being sexual contact. The rate of

transmission from a pregnant woman to her unborn child range from 15% in Europe, 25% in United States of America, and 40-45% in certain African countries[1]. Most of the cases of vertical transmission occur during pregnancy, especially at the time of delivery.

An estimated seven million newborn infants acquired the HIV viruses from their mothers in the year 2000, and approximately 16,000 are born with HIV infection every day[2]. However, with the use of anti-retroviral therapy, and other forms of targeted interventions, lower transmission rates are being reported. Transmission may also occur during breastfeeding. Secondary prevention of the un-born child in-utero (vertical transmission) presents a formidable yet feasible way of reducing HIV/AIDS prevalence as well as childhood morbidity and mortality[3].

In order to reduce the risk of this vertical transmission, invasive procedures such as artificial rupture of the fetal membranes, episiotomies and fetal blood sampling should be avoided[3]. Procedures such as episiotomies, amniocentesis and fetal scalp electrodes are also risk factors to vertical transmission of the virus. Elective caesarean section to reduce transmission has also been proposed.

Known risk factors are maternal plasma viral load, low CD4 count, and pre-labour rupture of the fetal membranes. Pre-labour rupture of the fetal membranes of greater than 4 hours doubles the risk of fetal transmission regardless of the mode of delivery[3].

Most perinatal transmissions occur at/or around the time of labour and delivery. Risk of transmission is reduced by exposure of the infant /newborn to maternal blood, body fluids and secretions during labour. Elective Caesarean section before the onset of labour has been shown to reduce the risk of transmission by up to 50% compared with other modes of delivery[7,8].

Chlorhexidine 0.25%, which is used to cleanse the vagina during labour, significantly decreases the HIV transmission[9].

Delay in rupture of the fetal membranes and the generous antiseptic solutions to clean the vagina, are also helpful measures to diminish vertical transmission.

Basic labour room staff precautionary measures will include disposable delivery room outfit, if possible; eyeglasses to protect the eyes; disposable delivery packs; late rupture of the fetal membranes; and surgical gloves with long arms.
Primary prevention of HIV/AIDS, the prevention in adults is also of importance here as the health care providers, in the course of their legitimate duties are vulnerable if care is not taken when attending to these group of patients.

We therefore conducted the study to determine the proportion of HIV positive women among women in labour room, and to proffer ways to reduce the risk amongst staffers.

## MATERIALS AND METHODS

This retrospective study was conducted from January 1998 to December 2003. The information was obtained from records of patients in the labour room of the Jos University Teaching Hospital, Jos, Nigeria. All patients with confirmed HIV positive status were studied. Negative test cases and inconclusive Western Blot results were excluded from the study. The delivery records were also analyzed for the total number of deliveries within the period under review.

## RESULTS

During the period under review, January 1998 to December 2003, 15,282 deliveries took place. Out of this figure, 159 were HIV-positive accounting for 1.1% of women admitted into the maternity unit of the Jos University Teaching Hospital for labour and delivery. The increase in the rates compared with the total deliveries is shown in Figure 1.
Table 1 shows the age distribution of the patients. The patients' age range was from 18.0 to 36.0 years with a mean of 26.4 years. Women of the age group 25-29 years constituted the highest number of the patients. All the patients were married.
The distribution of the HIV-positive patients by parity is shown in figure 2. The highest proportion of the HIV positive women was in the multiparous women. Women of parity 1 to 4 constituted up to 95.5% of the total cases. The percentage of the HIV-positive women was relatively higher in those of parity 1 to 4 compared with those of parity 5 and above.

No staff member was reported to have contracted the disease during the period of study.

## DISCUSSION

The main finding in this study was the disturbing or troubling rise in the trend of HIV prevalence among women in the labour room presenting for labour and delivery in the last two years. This yearly increase in the proportion of HIV among women during labour and delivery is a reflection of the infection in pregnancy and the general population. Reports are not available from other centers of HIV-positive women in labour.

The infection was highest among the parturient women of the age group 25 – 29 years of age. HIV infection among pregnant Nigerian women is rising, the prevalence rate being highest among the age group 25-29 years[17]. Among patients attending the antenatal clinics, the proportion of HIV has steadily increased from 1.8% in 1993; 4.5% in 1995 and 5.4% in 1999; to 5.8% in 2001[20]. To the best of our knowledge, no published data has reported the prevalence of HIV-positive women during labour and delivery in northern Nigeria.

The process of labour and delivery, involves the release of large volumes of body fluids (liquor, maternal and fetal blood, cervical and vaginal secretions) with an increased risks to the baby and the attending health care workers. The implication of this is that more infants being born and the attending physician or midwife are likely to be infected.

The significance of the study is that increased number of women of HIV-positive status present to the labour room for labour and delivery, posing a threat of infection for the attending staff through direct contact with infected blood. Meticulous antisepsis, treatment or disposal of waste will guard against the spread of the infection the staff and patients.

In the puerperium, transmission may also occur during breastfeeding. This poses a tragic dilemma for women throughout the developing world, particularly in Africa, because of the significant nutrition, child spacing, disease-preventive, and child survival benefits that breastfeeding conveys in areas with high rates of the disease.

Measures have been put in place to reduce or prevent the un-born and newly born infant from contracting the virus from the mother. All the women received one tablet of Nevirapine orally with onset of labour while the newborn infants were given a single dose of Nevirapine 2.3mg/kg administered orally within the first 72 hours of life as recommended by the Federal Ministry of Health[13]. However, less attention however has been paid to the prevention of the disease from one patient to another and to the health care provider.

The provision and use of Chlorine (bleach) for the decontamination of recycled items has become a mandatory process for the treatment of these items, as part of our practice in the labour room.

Mother to child transmission (MTCT) of the virus poses a unique challenge to all health care providers. Its prevention involves a multi-dimensional approach. Strategies that are likely to succeed in developing countries will definitely include simple and cheap drug regimens, e.g. short course of Zidovudine (AZT) or Nivirapine therapy[5,6,14,15].

Staff members with any form of injury or abrasions on the hands should be excused from the labour room until such wounds are duly healed. Effective measures will include clean environment, bleach preparations, good ventilation, theater outfits, facemasks, eyeglasses, abundant surgical gloves with protection extending to the elbow, abundant antiseptic and disinfectant solutions, appropriate instruments and equipments for all procedures, and adequate provision made for post-exposure prophylaxis.

Post exposure prophylaxis measures must also be put in place. Basic post-exposure prophylaxis application is indicated in occupational exposure for which there is a recognized transmission risk; such as needle-stick injury, non-intact skin, mucous membrane or intact skin. The drug regimen for this risk is Zidovudine 600 mg daily plus Lamivudine 150 mg twice a day for 28 days or Zidovudine 300 mg plus Lamivudine 150 mg, twice a day for 28 days[14]. There is also the expanded post-exposure prophylaxis which applies to occupational HIV exposure that pose an increased risk for transmission; such as contact with large volume of blood or patients with high viral load in blood. The regimen in this case is Zidovudine 600 mg daily plus

Lamivudine 150mg twice a day plus Indinavir 800 mg 8hourly for 28 days; or Zidovudine 300 mg plus Lamivudine 150 mg twice a day plus Nelfinavir 750 mg 8 hourly for 28 days[14].

The rising trend of HIV among women in labour and delivery pose an additional problem of transmission of the viruses to other women in labour and the attending staff by direct contact with infected blood or body fluids. Operative procedures such as caesarean section and episiotomies for whatever indication predispose obstetricians and midwives to the risk of infection from injuries likely to be sustained during these procedures, including splashes of infected body fluids to the un-protected eyes.

A useful dictum in the labour room ought to be to treat all labour patients as if they were HIV-positive. The healthcare providers need to take care at all times not to get infected. As a long-term measure, research into a vaccine should be encouraged, as when successful, will offer tremendous benefit to those working in high-risk areas such as the labour room where large volumes of body fluids are emitted in the process of labour and delivery.

For the protection of the health care provider, hospital authorities need to put in place effective measures to protect the accoucheur and other patients from contracting the disease from the HIV-bearing body fluids from these patients. This requires adequate basic infection prevention measures such as antiseptics and disinfectants, appropriate functioning instruments and equipment, and in addition, abundant consumable items. In addition, post exposure prophylaxis measures must be made available for use by staff that sustain injuries during a procedure on an infected patient or are exposed to the virus. In view of the danger to the attending physician or midwife, the search for a cure or at least a vaccine for the virus must still be pursued with vigor.

## REFERENCES


1. Mclyntre J. Transmission of HIV from mother to child: Strategies of prevention. Postgraduate Doctor Africa 1995; 19: 4-6.
2. Steinbrook R. Beyond Barcelona – The global response to HIV. N. Eng. J. Med. 2002; 347: 553-554.
3. Marie-Louise N. Prevention of mother to child transmission of HIV: Challenges for current decade. Bulletin of World Health Organization 2001; 79: 138-144.
4. Inem AV, Adedokun OO, Ayankogbe OO. A Voluntary Counseling and Confidential Testing Program for Prevention of Mother-to-child transmission of HIV in a Practice Based Research Network (PBRN) Hospital in Lagos, Nigeria. Nigerian Medical Practitioner 2003; 43: 135-138.
5. Viktor SZ et al. Short course oral zidovudine for prevention of mother to child transmission of HIV-1 in Abidjan, Cote d' Ivoire: a randomized trial. Lancet, 1999; 353: 781-785.
6. Guay, LA., et al. Intrapartum and neonatal single dose nevirapine compared with zidovudine for prevention of mother to child transmission of HIV-1 in Kampala Uganda. HIVNET 012 randomized trial. Lancet1999 354: 794-802.
7. The European mode of delivery Collaboration. Elective caesarean section versus vaginal delivery in the prevention of vertical HIV-1 transmission: A randomized clinical trial. Lancet 1999; 353: 1035-1039.
8. Madellrol, L., et al. Perinatal HIV-1 transmission: Interaction between Zidovudine prophylaxis and mode of delivery in the French Perinatal cohort. JAMA 1998; 280: 55-60.
9. Bigger RJ, et al. Perinatal intervention trial in Africa: Effect of a birth canal cleansing intervention to prevent HIV transmission. Lancet 1996; 347: 1647-1650.
10. European collaborative study. Risk factors for mother to child transmission of HIV-1. Lancet 1992; 339: 1007-1012.
11. Kumar A, Beniwal M. HIV in Obstetrics. In: Common Clinical Problems in Obstetrics and Gynaecology; A Practical Approach. (ED. R Tripathi and A Muthal-Rathore). Jaypee Brothers Medical Publishers (P) Ltd, New Delhi; 2001;44-53.
12. UNAIDS. HIV Voluntary counseling and testing: a gateway to prevention and care. UNAIDS case study 2002: 8-9.
13. Federal Ministry of Health, Technical report on: The 2001 National HIV/Syphilis Sentinel Survey among pregnant women attending antenatal clinics in Nigeria. 2001: 31.

14. Basic post-exposure and expanded post-exposure prophylaxis. Report of the Center for Disease Control (CDC); 1998.

15. HIV/AIDS In Nigeria: Overview of the Epidemic. Produced by the National AIDS & STD Control Programme, Federal Ministry of Health; March 2002.

Figure I: The trend of HIV positive women in the labour room of Jos University Teaching Hospital

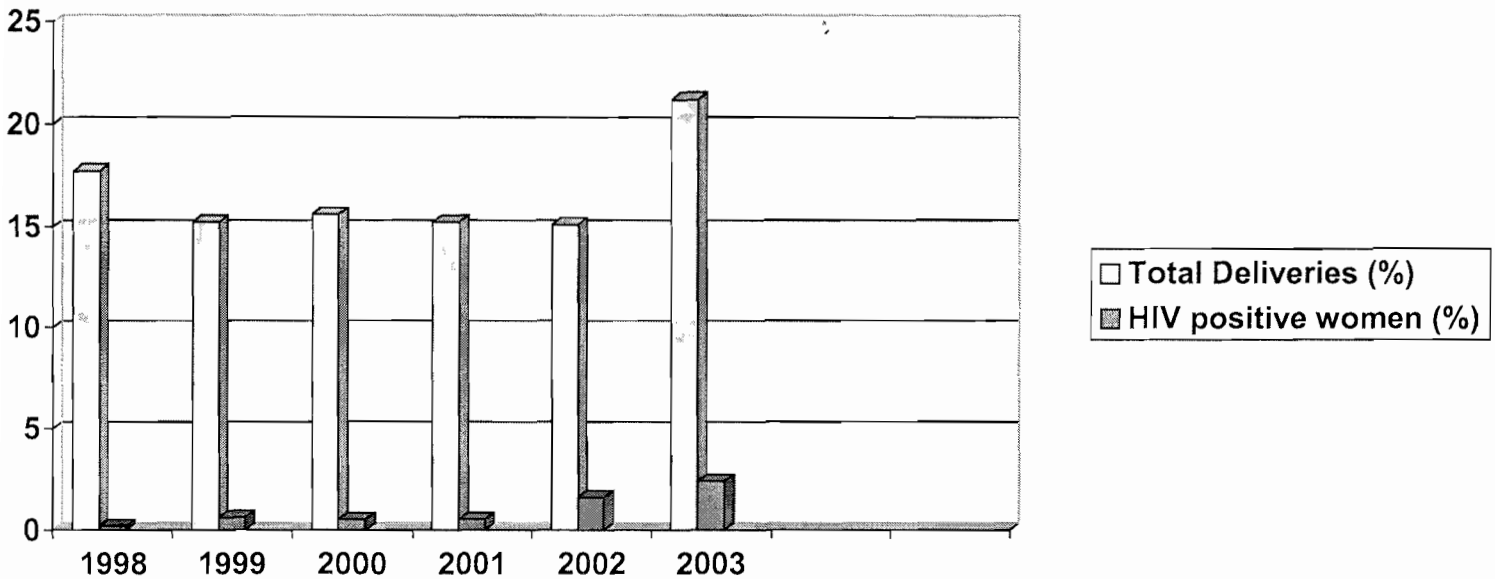
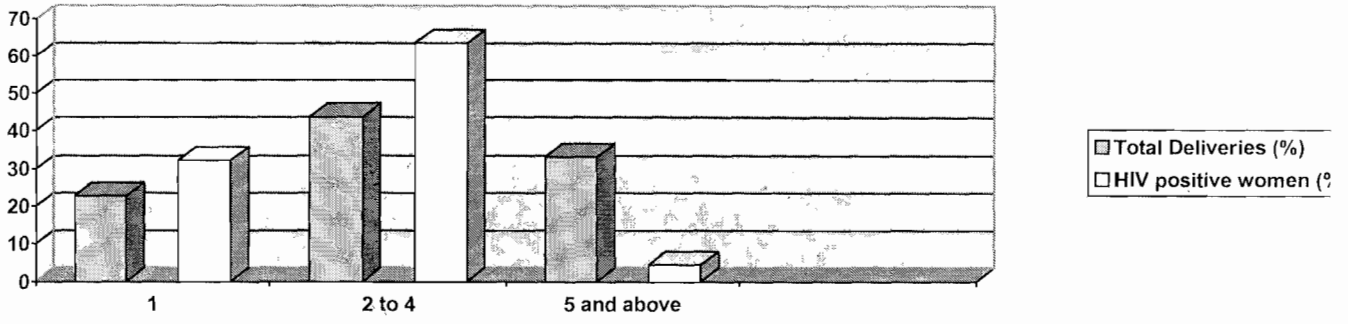


**Table 1:** Age distribution of the HIV-positive women in labour

| AGE GROUP IN YEARS | Total Deliveries (%) | HIV-positive women (%) |
|---|---|---|
| <20 | 1,391 (9.1) | 4 (0.3) |
| 20-24 | 3,225 (21.1) | 34 (1.05) |
| 25-29 | 5,074 (33.2) | 74 (1.46) |
| 30-34 | 3,576 (23.4) | 33 (0.9) |
| 35-39 | 1,498 (9.8) | 14 (0.9) |
| 40-44 | 397 (2.6) | 0 (0.0) |
| >44 | 122 (0.8) | 0 (0.0) |
| TOTAL | 15,282 (100.0) | 159 (1.1) |

(Mean age for all patients = 29.4; mean age for HIV-positive women = 26.4 years)

Figure 2: The distribution if HIV-positive women by parity




(Mean parity of HIV-positive patients = 2.6)