ORIGINAL ARTICLE

OUTCOME OF DELIVERY AMONG HIV POSITIVE MOTHERS AT AMINU KANO TEACHING HOSPITAL, KANO

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ABSTRACT

***BACKGROUND**: If a HIV positive mother delivers in a health facility, interventions can be effected to reduce the risk of transmission of HIV to the baby. The study was done to evaluate the interventions offered to HIV positive women who delivered at Aminu Kano Teaching Hospital (AKTH) Kano.*

***METHOD**: Retrospective review of the case records of all HIV positive patients that delivered at AKTH over a 27 month period (October 2003 to December 2005) was used.*

***RESULTS**: There were 4922 deliveries out of which 125 were HIV positive, giving a prevalence rate of 2.54%. Most (75.2%) of the patients received Nevirapine alone in labour, 20.8% received a combination of antiretroviral drugs while 4% received none because their records were not available. Majority (88%) of the patients had spontaneous vaginal delivery, 10.4% by elective CS and 1.6% by emergency CS. There was no maternal death but 3.2% of the babies were stillbirths. All the babies received a single dose of Nevirapine. Most (96%) mothers chose exclusive breast milk substitute.*

***CONCLUSION:** HIV positive mothers need to deliver in health facilities to receive the full compliment of care they deserve. Highly Active Antiretroviral therapy (HAART) should be introduced, as it is more effective for PMTCT.*

***Key words**: HIV; Delivery; Kano.*

Paper accepted for publication 11th September 2006

INTRODUCTION

About 90% of paediatric cases of AIDS are as a result of transmission of HIV from infected pregnant women to their babies[1]. The infection may occur in antenatal, intrapartum, or postnatal periods (through breast milk). HIV/AIDS is one of the major illnesses affecting women's health, with 20 million women worldwide living with HIV and more than two million pregnancies in HIV positive women each year[2]. A major step towards the reduction of paediatric AIDS is focusing attention on the prevention of mother to child transmission (PMTCT) of HIV. In line with this assertion, 189 governments participated in United Nations General Assembly Special Session (UNGASS) in 2001, where they gave their commitment in a declaration calling for the reduction in the proportion of infants infected with HIV by 20% by 2005 and by 50% by the year 2007 [3.] Without any intervention, about one third of infants of HIV-positive mothers will be infected during pregnancy (5%10%), labor and birth (10%20%), or breastfeeding (5%20%)[4.]

Voluntary Counseling and Testing (VCT) during the antenatal clinic is the entry point for PMTCT of HIV as it enables women to know their serostatus in terms of HIV. Interventions during delivery are an important component of PMTCT considering the 10-20% risk of transmission of HIV from an infected mother to her baby during labour. The PMTCT of HIV programme of The Aminu Kano Teaching Hospital was commenced in October 2003. This report analyses the interventions offered to the HIV positive mothers that presented in labour to the labour ward of the hospital over the period October 2003 to December 2005 (27 months).

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MATERIALS AND METHODS

The study was retrospective. The case records of all HIV positive patients who delivered during the period under review were retrieved from the medical records department of the hospital and analyzed. The data obtained included the age and parity of the patients, time of HIV diagnosis, type of antiretroviral drug administered in pregnancy and labour, mode of delivery, if the mother sustained a vaginal tear or was given an episiotomy, outcome of mother and baby and the feeding choice for the baby. The data was analyzed using basic statistics.

RESULTS

There were 4922 deliveries during the study period was out of which 125 were HIV positive, giving a prevalence rate of 2.54%. Eighty (64%) of the patients, who formed the majority, were within the age group of 20 to 34 years. Eighty seven (69.6%) of the patients had a parity of two to four. Table I shows the time of HIV diagnosis and the type of antiretroviral drug administered in labour. The diagnosis of HIV infection was made during the antenatal clinic in 101 (80.8%), before pregnancy in 20 (16%) and during labour in 4 (3.2%) patients. Twenty six (20.8%) were already on triple antiretroviral drugs which were prescribed either at the adult ARV clinic (for those whose diagnosis was made before pregnancy) or at the antenatal clinic. The antiretroviral drug administered to the women during labour was in the form of a single 200mg oral dose of Nevirapine, which was administered to 94 (75.2%) patients. The 26 patients on triple antiretroviral drugs had their drugs administered to them. Five (4%) patients did not receive any antiretroviral drug. Their caregivers missed these patients because their records that would have revealed their HIV status were not available at their delivery. The mode of delivery was spontaneously by the vagina in 110 (88%), elective caesarean section in 13 (10.4%) and emergency caesarean section in 2 (1.6%) patients. The emergency caesarean sections were all done for cephalopelvic disproportion. Seventeen (13.6%) were given an episiotomy while 20 (16%) sustained a perineal tear. The fetal membrane rupture to delivery interval was less than four hours in 115 (92%) patients. There was no maternal mortality recorded but four (3.2%) of the babies were delivered as fresh stillbirth. All the babies received a single dose of Nevirapine syrup (2mg/kg/dose) within 72 hours of delivery except those whose mothers were missed. Most (96%) mothers chose to feed their babies with exclusive breast milk substitute.

Table I: Time of diagnosis of HIV infection and type of antiretroviral drug administered in labour

Time of Diagnosis/ Type of Antiretroviral Drug	Nevirapine alone No (%)	Combination of three drugs No (%)	None No (%)	Total No (%)
Before pregnancy	0(0)	20(76.9)	0(0)	20(16)
During Antenatal care	90(95.8)	6(23.1)	5(100)	101(80.8)
During labour	4(4.2)	0(0)	0(0)	4(3.2)
Total	**94(75.2)**	**26(20.8)**	**5(4)**	**125(100)**

DISCUSSION

The prevalence of HIV among the women delivering was 2.5%. This finding is lower than the prevalence of 9.6% reported from Jos[5] and 6.5% reported from Ibadan[6]. This difference most probably arose because the testing for HIV in both studies were done in labour unlike ours, which mainly relied on testing done previously at the antenatal clinic or even before pregnancy, with few done in labour. In addition, the studies were carried out in different geographic zones. Also, the study from Ibadan was restricted to unbooked patients. Importantly, a sero-conversion rate of 2.1% was found among women who previously tested for HIV during pregnancy in the Jos study.[5]. This confirms the superiority of HIV testing during labour as it provides an opportunity for testing women who had never tested before and those who may have sero-converted during pregnancy form negative to positive. Voluntary rapid HIV testing is a feasible strategy for detection of HIV seropositivity in pregnant patients who

present in a labor and delivery suite with unknown serostatus. This provides an opportunity to administer antiretroviral prophylaxis and to incorporate other obstetric interventions to decrease vertical HIV transmission [7]. The figure obtained in this study could probably have been higher if the testing was offered to all the women in labour.
The diagnosis of HIV was made in 80.8% of the women during their antenatal care. VCT during antenatal care is an important entry point for PMTCT programmes. The Nigerian National Guidelines recommends VCT as an important component of HIV prevention and care, which should be incorporated into existing health and social services. Testing for HIV is also expected to be offered on a voluntary basis[8] as is done in AKTH. Other studies have also shown that pregnant Nigerian women have a high knowledge of HIV and a good attitude towards screening for HIV during pregnancy[9,10]. This makes health education to women on the need to book for antenatal care an important component of PMTCT.

Majority (75.2%) of the patients were given only Nevirapine in labour. This regimen is easy to administer and reduces MTCT in breastfed infants by 41%, as measured 18 months after birth [11]. As Nevirapine is a key component of first-line HAART regimens in most developing countries, there is increasing concern that women who take single-dose Nevirapine in labor may develop resistance to HAART for their own health in the future. New evidence about resistance comes from a Thai study, showing that women who took Nevirapine in labor and later received Nevirapine-containing HAART were less likely to suppress their HIV virus than women who did not take Nevirapine in labor and started HAART later [12]. In the HIVNET 012 study in Uganda, 19% of women developed Nevirapine-resistant virus 6 to 8 weeks after taking a single dose in labor; however, resistance diminished over time, and was infrequent a year later[13]. All the babies were given Nevirapine syrup within 72 hours of delivery.

Unfortunately, 5 (4%) of the patients were completely missed out by their caregivers and did not receive any antiretroviral drugs. Their medical records were not seen. This was a serious omission. There is a need to improve the medical record retrieval system so as to recognize such patients. The patients should also be educated to reveal their serostatus themselves so as to receive the full compliment of care they deserve in labour. This should form part of the health education to be given such patients in the antenatal care.
88% of the patients were delivered by spontaneous vaginal delivery while only 10.4% had elective caesarean section. Elective caesarean section is not a popular method of preventing infection to the baby in developing countries [14]. Its potential benefit has to be weighed against the risk to the mother. Postoperative morbidity has been reported in HIV positive patients especially infective complications [15,16,]. Other potential problems include risk of anaesthesia and the fact that a lot of women have aversion to Caesarean section [17]. Despite that, HIV positive women may need to be delivered by Caesarean section for other reasons, as was the case of the 1.6% of the patients who developed cephalopelvic disproportion. Other modalities that were followed as recommended by the national guideline were the avoidance of routine episiotomy and maintenance of the fetal membrane as long as possible [18].

In conclusion, this study demonstrated the importance of VCT for HIV at the antenatal clinic as an important entry point for PMTCT. There is need to improve medical records retrieval system in labour so that patients are not missed. There is also need for rapid screening tests for patients in labour.

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