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Rapid HIV Testing and Counselling in Labour in a Northern Nigerian Setting

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ABSTRACT

Between April and August 2004, all pregnant women in labour at JUTH, were offered rapid HIV testing and counselling with opportunity to decline testing. HIV positive women were offered the standard nevirapine mono-therapy prophylaxis regimen (HIVNET 012). Four hundred and thirty (99.8 %) of the 431 pregnant women who were offered rapid HIV testing and counselling, agreed to test. A sero-conversion rate of 2.1% (5 of 235) was found among women who had previously tested negative for HIV during the index pregnancy. A sero-prevalence rate of 9.6% (16 of 166) was found among women with unknown HIV status. One patient who had an indeterminate HIV status prior to labour tested positive in labour. Rapid HIV testing and counselling in labour is a useful practice in high prevalence settings since it detects a substantial number of HIV-infected women and HIV-exposed babies that would otherwise have missed interventions to prevent MTCT. (*Afr J Reprod Health* 2006; 10[1]:76-80)

RÉSUMÉ

Conseil et le test rapide du VIH pendant le travail dans un milieu du Nigéria du nord Entre avril et août 2004 toutes les femmes en travail à JUTH ont subi le test pour le VIH et ont reçu du conseil avec l'opportunité de refuser le test. Les femmes séro-positives reçu la monothérapie de névirapine standard schéma prophylaxie (HIVNET 012). Quatre cent trente (99,8%) sur 431 femmes enceintes qui ont subi le test rapide du VIH et qui ont reçu le conseil avaient accepté le test. Au cours d'une grossesse d'indice un taux de conversion de séro de 2,1% (5 sur 235) a été constaté chez les femmes dont le résultat du test pour le VIH, au départ était négatif. Un taux de séro-prévalence de 9,6% (16 sur 166) a été remarqué chez les femmes dont le statu du VIH n'était pas connu. Une femme dont le statu du VIH était indéterminé avant le travail avait testé positive pendant le travail. Le test rapide du VIH et le conseil au cours du travail est une bonne pratique dans les milieux ayant une haute prévalence puisqu'il détecte bon nombre de femmes infectées par le VIH et des bébés exposés au VIH qui, autrement, auraient manqué les interventions pour prévenir la transmission de la mère à l'enfant (TME). (*Rev Afr Santé Reprod* 2006; 10[1]:76-80)

KEY WORDS: *HIV, Pregnancy, Rapid testing, Labour, MTCT*

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Introduction

In the midst of an unrelenting global HIV/AIDS epidemic, and the increasing proportion of infection among women, the world's attention is now focusing on the prevention of HIV infection among its most vulnerable individuals: the newborns, infants and young children. Globally, about 640,000 children became HIV-infected in 2004 alone and over two-thirds of these occurred in sub-Saharan Africa.¹ Mother-to-child transmission (MTCT) of HIV-1 infection is responsible for over 90% of Paediatric HIV/AIDS, with the highest risk of transmission occurring during labour and delivery.

Findings from clinical trials show that antiretroviral (ARV) prophylaxis, given to the mother during labour and to the neonate immediately after birth, can reduce MTCT of HIV by as much as 50%.²⁻⁶ To maximise this benefit, it is important to determine the HIV status of women before they are in labour. In the USA where interventions to prevent MTCT are widely offered in maternity settings, approximately 40% of the mothers of HIV-infected infants born in 2000 were not known to be HIV-infected before delivery.⁷ In Nigeria, where the sero-prevalence of HIV among pregnant women is 5%,⁸ the National HIV/AIDS & Reproductive Health Survey 2003 found that only 6% of women of child-bearing age had ever tested for HIV, 62% attend antenatal care and 34% are delivered in health facilities with skilled attendants.⁹ Thus, provision of routine HIV testing to women with unknown HIV status during labour and delivery can contribute in reducing MTCT. We were interested in reporting our experience of providing rapid HIV testing and counseling, using the opt-out approach, in the labour ward of Jos University Teaching Hospital (JUTH), as a prelude to a bigger study to evaluate this practice.

Methodology

This cross sectional study was conducted among women who presented for delivery in the labour

ward at JUTH. Over a 4-month period (April - August 2004), 431 consecutive pregnant women who were in the early stages of labour were offered HIV counseling and testing with the opportunity to decline. One woman, who declined testing, had never tested for HIV previously and did not give any reasons for her decision. Consenting women who had previously tested for HIV, irrespective of the results, as well as those with unknown HIV status were included in the study. Individual post-test counselling was provided immediately post-partum. Women who were in advanced labour with unknown HIV status were offered testing and counselling after delivery. Blood samples were tested for HIV by using Determine[®] Test kit (ABOTT Japan Co. Ltd, Roppongj, First Building 9-9) and positive samples were double tested with OraQuick[®] Rapid HIV Antibody Test (OraSure Technologies, Inc., Bethlehem, PA, USA). All women who were HIV positive were given a stat dose of nevirapine 200mg during labour and their babies received single dose nevirapine suspension 2mg/kg, within 72 hours of delivery. The results were analysed with Epi Info version 3.2.2.

Results

During the study period, 430 (99.8 %) of the 431 pregnant women who were offered rapid HIV testing and counselling, agreed to test. All 430 pregnant women who fulfilled the inclusion criteria for the study were tested. The ages of the women ranged from 16 - 43 years (mean 27.8 ± 5.9). The age distribution showed that 80% of the women were aged 20 - 34 years. Of the 235 women who had previously tested HIV negative during pregnancy, 5 (2.1%) were found to be HIV positive in labour. The prior negative HIV status of these 5 women was verified. The mean gestational age at which, HIV testing was done during pregnancy for women who sero-converted (24.7 ± 5.6 weeks) was higher than that of women who did not sero-convert (22.9 ± 6.8 weeks) $p < 0.001$. Among 166 women with

unknown HIV status before labour, 16 (9.6%) were detected to be HIV positive in labour. One woman who was HIV indeterminate (by Western blot) during pregnancy was found to be HIV positive in labour. A repeat Western blot result in the immediate post-partum period confirmed her HIV positive status. Of the 28 women who had previously received a positive HIV test during pregnancy, one tested HIV negative in labour. The verification of the prior HIV status of this woman revealed that she tested HIV positive in a general laboratory but on booking for antenatal care in JUTH, she repeated the HIV test in the JUTH APIN laboratory and was found to be HIV negative. She did not return to receive this result before labour. Her HIV negative status was confirmed by Western blot post-partum. *Table 1* shows HIV status of the women prior to labour and HIV status after testing in labour.

Discussion

The practice of rapid HIV testing and counseling in labour provides a final opportunity to detect pregnant women with HIV infection, who may require interventions to prevent MTCT. This study was done to determine the feasibility of rapid HIV testing and counselling in our labour ward setting. Data from JUTH antenatal clinic over the last 3 years indicate an average HIV prevalence of 8.2% among pregnant women booking for antenatal care.¹¹ The main findings from this study have clinical implications for practice.

First, a sero-conversion rate of 2.1% occurred during pregnancy among women who tested

negative for HIV prior to testing in labour. These women would have missed the opportunity of being detected and would not have received interventions for PMTCT without testing. Appropriate intrapartum management with ARV prophylaxis has been documented to substantially reduce mother-to-child transmission of HIV²⁻⁶. Detecting HIV positive women early in labour is necessary, in order to commence ARV prophylaxis, avoid obstetric practices that may increase the risk of MTCT and provide advice on safe infant feeding. The second main finding in this study revealed that a large proportion of women (38.4%) presenting in the labour ward did not know their HIV status. This finding may not be uncommon in labour ward settings of other health centres in Nigeria. Only about 70% of pregnant women in north-central Nigeria receive antenatal care⁹ and most antenatal clinics do not yet offer HIV testing. From the cohort of women with unknown HIV status in this study, 9.6% were detected to be HIV positive in labour and appropriate interventions were instituted to prevent MTCT. Clearly, in the absence of HIV rapid testing in labour, a significant number of HIV-exposed babies would be missing the opportunity to receive interventions to prevent MTCT of HIV. The mothers and partners are also deprived the opportunity to know their HIV status and thereby access needed care to enhance their own health. This finding underscores the need to make rapid HIV testing in the labour ward setting a universal practice since a substantial proportion of pregnant women in developing

Table 1: HIV status prior to labour and HIV status after testing in labour

Previous HIV status	No tested HIV	No tested HIV Positive in	Total
Prior to labour	Negative in labour	in labour	
Negative	230	5	235
Positive	1	27	28
Unknown	150	16	166
Indeterminate	0	1	1
	381(88.6)	49 (11.4)	430

Percent in parentheses

countries may not have access to antenatal HIV testing and invariably present in labour with unknown HIV status.

HIV testing remains a relatively new practice in many antenatal settings in Nigeria, and there are concerns about the quality of the testing performed in various centres. This is likely to become a major challenge as MTCT services scale up and tests are done in a variety of facilities throughout the country. These concerns were substantiated by the findings in this study, that one woman who tested HIV positive in pregnancy, in an outside laboratory, was found to be HIV negative in labour. The prior positive test was however traced to a test conducted in a general laboratory outside JUTH. The tests conducted in JUTH prior to, and during labour consistently revealed her HIV negative status.

The nevirapine monotherapy regimen that was in use during the period of this study has been modified by very recent Nigerian national recommendations advocating the use of prophylactic antiretroviral drug combination regimens including HAART.¹²

In summary, the findings of this study suggest that offering rapid HIV testing and counselling to all women with unknown HIV status in labour, with the opportunity to decline, is a cost effective way to maximise the benefits of perinatal interventions to prevent MTCT of HIV infection in high prevalence settings. Although a larger scale multicentre study in the region would be useful in assessing the feasibility of rapid HIV testing and counseling in labour ward settings, our findings suggest that the practice is useful since it detects a substantial number of HIV-infected women and HIV-exposed babies that would otherwise have missed interventions to prevent MTCT.

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