FEASIBILITY AND ACCEPTABILITY OF POSTPARTUM VOLUNTARY COUNSELLING AND TESTING (PPVCT) IN A LARGE TERTIARY HOSPITAL IN THE SOUTH AFRICAN SETTING

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Objective. To demonstrate the feasibility and acceptability of introducing postpartum voluntary counselling and testing (PPVCT) and the provision of post-exposure nevirapine prophylaxis (PEP) to HIV-exposed infants whose mothers did not receive any antiretroviral prophylaxis to prevent mother-to-child transmission (PMTCT) in a large, tertiary hospital in the South African setting.

Design. Observational, interventional study.

Setting. The programme was implemented at Chris Hani Baragwanath Hospital (tertiary referral centre) in Soweto, South Africa, following a study that established the efficacy of a postpartum regimen of PEP in PMTCT.

Participants. From January 2003 to December 2004, 7 500 women who delivered at Chris Hani Baragwanath Hospital without a documented HIV-1 result were identified in the postnatal wards. PPVCT was offered to all eligible participants.

Intervention. On-site HIV rapid tests were performed on all women who agreed to testing. For those women testing HIV-1 positive, a single dose of nevirapine syrup was offered to their infants as PEP within 72 hours after delivery. Infant feeding counselling, assistance with follow-up care and support programmes were also offered.

Main outcome. From January 2003 to December 2004, 34 776 deliveries occurred at Chris Hani Baragwanath Hospital. Of these, 7 500 (21.5%) had no documented HIV status. After delivery 5 751 (76.7%) women were offered VCT, and of these 3 794 (66%) accepted testing. Of these women, 1 294 (34%) tested HIV positive and 1 243 (96%) women accepted the administration of single-dose nevirapine to their infants.

Conclusions. The uptake of PPVCT is comparable to that seen in established antenatal VCT despite the numerous challenges PPVCT presents. This suggests that PPVCT is both an acceptable and a feasible option in a busy, resource-limited setting and remains an important strategy in PMTCT in untreated individuals.

In 2003, the World Health Organization (WHO) estimated that approximately 40 million people worldwide are HIV infected.[1] At present more than 5 million people are thought to be HIV infected in South Africa alone.[1] The HIV epidemic has had a profound impact on the health of people living in Soweto, an urban black township of approximately 2 million people situated on the outskirts of Johannesburg, South Africa. Prevalence rates of HIV-1 in pregnant women have increased from 15.5% in 1996 to over 30% in 2004 in our region (national HIV and syphilis antenatal seroprevalence). Perinatal HIV transmission rates vary from 37% (untreated women who breast-feed) to less than 7% for women identified in pregnancy who access antiretroviral therapy and do not breast-feed.

At Chris Hani Baragwanath Hospital (CHBH), voluntary counselling and testing (VCT) services have been available to pregnant women who attend antenatal services at the hospital since 1988. In 1999, on-site rapid testing was introduced with the option to be tested and counselled on the same day. In addition, models of VCT have been developed within the midwifery units in Soweto. These units received training and support from the Perinatal HIV Research Unit (PHRU) for the

implementation of programmes to prevent mother-to-child transmission (PMTCT) thus ensuring that all pregnant women who attended antenatal care in Soweto were eligible for rapid on-site VCT and nevirapine (NVP) prophylaxis if they tested positive. Annually the current PMTCT programme reaches out to approximately 28 000 pregnant women in Soweto.[2] Most of these women will receive individual pre-test counselling (over 89%) with a high acceptance of testing (over 90%).

Unfortunately, these figures do not reflect either the availability or the uptake of antenatal VCT throughout South Africa. Overall, it is believed that the proportion of pregnant women who have access to HIV counselling, testing and nevirapine (NVP) is less than 15%.[3] It is widely accepted that the identification of HIV-positive women is the cornerstone of the prevention strategy. Although the PMTCT programme is growing rapidly, there are still vast numbers of women who are not identified antenatally as being HIV infected and therefore do not have the opportunity of receiving the benefits of post-exposure prophylaxis (PEP). These women include those who have not booked, those who refused testing when offered initially, those who were tested but never returned for their results, those who had forgotten to take their NVP, and those who may be in denial of their status. NVP PEP to the infant has been shown to be efficacious in a study performed in South Africa[4] and was implemented soon after the results of this study became available.

Evidence supporting the role of PEP antiretroviral therapy (ART) in reducing MTCT of HIV in infants whose mothers did not access therapy during pregnancy or labour has been demonstrated in a prospective study in two studies in Africa that investigated post-labour and delivery exposure prophylaxis in newborns.[4, 5] With the advent of the new-generation simple and rapid HIV tests women were able to be tested safely and accurately soon after delivery. These tests are sensitive and reliable, do not require expensive laboratory equipment, do not require refrigeration, provide a result within 15 - 30 minutes and can be read by trained non-laboratory staff. The WHO has evaluated many of the tests and has issued recommendations as to which of them are acceptable. This is particularly important in our setting, where a policy of early discharge after delivery creates a huge challenge to delivering a comprehensive postpartum voluntary counselling and testing (PPVCT) service.

METHODS

Testers, nurse counsellors and lay counsellors were trained to conduct the PPVCT service. All women who had delivered at CHBH and had no documented HIV result were identified after delivery in the postnatal wards. Test information and pretest counselling was provided on an individual level as soon as the patient had sufficiently recovered from her delivery. Counselling was done either by the nurse councillors or the lay counsellors. No standardised time period after delivery was used, but each patient was assessed individually before pretest counselling was commenced. Owing to staff shortages, PPVCT services were only offered during routine working hours (Monday to Friday 07h30 - 16h00). The authors acknowledge that this system does allow for some women and children to be missed, and plans have been made to offer services on weekends as well. Women who agreed to pretest counselling were counselled in the procedure rooms, adjacent to the wards. Phlebotomy was performed by a registered phlebotomist and samples were tested a short distance away from the wards in a room designated for PPVCT testing.

The testing was performed by counsellors who had been trained to test using rapid HIV tests. The blood samples were initially tested with Determine HIV-1/2 test kits (Abbott Laboratories, Abbott Park, IL). Women who tested negative at this test were considered to be uninfected with HIV. If the test result was positive, a second confirmatory test was performed using Uni-Gold (Trinity Biotech, Wicklow, Ireland). The Determine HIV-1/2 assay has been found to have a sensitivity of 97.9 - 100% with a specificity of 100%. The Uni-Gold HIV test has been found to have a sensitivity of 99.8% and a specificity of 100%. For quality assurance purposes 20% of specimens were selected randomly to be sent to the main laboratory for ELISA testing for antibodies to HIV-1/2.

Where possible, test results were given on the same day by the same person who had done the original pretest counselling. Women who tested positive (two different rapid tests on the same specimen) received post-test counselling on being HIV infected and on safer infant feeding and were offered the option of NVP being given to the baby once the risks and benefits had been explained. No child was given NVP without the informed consent of the mother.

Nurse counsellors or lay counsellors were also available to do the additional post-test counselling where required and facilitate the referral of HIV-positive women into a support group within their community. Women testing HIV negative (one rapid negative) received a short post-test counselling session and a pamphlet on HIV prevention. Women whose results were discordant or difficult to interpret were sent for a routine HIV-1 enzyme-linked immunosorbent assay (ELISA).

Infants whose mothers had accepted administration of NVP were given a single dose of NVP syrup (2 mg/kg) by a registered nursing sister employed by the PPVCT service. As with all drugs, the provision of NVP requires an adequate drug distribution and monitoring system, and a strict drug log book was kept and monitored by the resident pharmacist.

RESULTS AND DISCUSSION

Table I indicates the number of women who were offered and received PPVCT from January 2003 to December 2004, including the number who delivered at CHBH; the number with no HIV status documented; the number who were offered PPVCT; the number who accepted testing and tested positive; and the number who accepted NVP.

TABLE I. PPVCT OUTCOMES FOR 2003 AND 2004

	2003	2004
Total No. of deliveries	15 847	18 929
Status documented	11 829	7 100
Status not documented	4 025	3 475
Offered VCT	3 095	2 656
Accepted testing	2 202	1 592
Percentage uptake	71	60
HIV-1 positive	685	609
Accepted NVP	647	596
Percentage uptake NVP	94	98

As shown in Table I, between January 2003 and December 2004, 34 776 deliveries occurred at CHBH. Of these, 7 500 (21.5%) had no documented HIV status. PPVCT was offered to 5 751 women, with 3 794 of these patients accepting testing (66% uptake). Women who were considered to be ineligible for PPVCT were those who had a stillbirth or miscarriage; were too ill to be counselled and give informed consent; or spoke a foreign language if no interpreter was available. Occasionally a woman was not in the ward when the counsellor did her rounds and was therefore not offered VCT.

Of the women who accepted testing, 1 294 (34%) tested HIV positive. These results are slightly higher than those in the local antenatal clinics.[2] Of the women with a positive result, 1 243 (96%) accepted the administration of single-dose NVP to their infants.

An uptake of PPVCT of 66% is comparable to that seen in established antenatal VCT despite the numerous challenges PPVCT presents.[2] Although formal questionnaires were not administered to participants, the general response to the counsellors was favourable, as suggested by the relatively high uptake of PPVCT. Furthermore, the very high acceptance of NVP (96%) is extremely encouraging.

COSTS

The study that established the efficacy of NVP PEP in PMTCT was funded by Secure the Future. The PPVCT and PMTCT service was funded by USAID and utilised very few existing resources within the hospital. EDTA tubes, needles and syringes were supplied by the hospital. Office space and counselling space was allocated for the PPVCT staff. Confidentiality became an issue at times as the procedure rooms were not always vacant, but the staff remained flexible and either returned later or used other quiet, private areas. As no pre-existing HIV testing/counselling services were available in the postnatal wards, the service was utilised heavily by obstetric and paediatric doctors alike. The staff employed to run the day-to-day operations consisted of two lay counsellors, one trained nursing sister and one tester.

The total cost of providing the postpartum voluntary counselling and testing service for 2003 was R307 224 (US$ 51 204 – estimated exchange rate US$1 = R6). During the period January - December 2003 a total of 2 202 women with unknown HIV status accepted PPVCT. The cost per woman who accepted – including testing and administering NVP to those babies whose mothers were positive and accepted it – averaged R139 (US$23) per woman.

These results suggest that PPVCT is an acceptable, feasible and affordable option and has a role to play even in areas with successful antenatal VCT programmes and where antenatal clinic attendance is very high. It remains to be seen how many mothers will bring their children back for testing at 1 year of age, and an analysis of HIV results at 1 year of age still needs to be done. The purpose of this paper is to illustrate that PPVCT and NVP PEP for infants is a practical, realistic option even in busy, resource-limited settings.

CONCLUSION

Despite heavy workloads, limited resources (staff and equipment) and reluctance of patients to test for HIV, PPVCT appears to be both a feasible and acceptable option and allows us to utilise the window of opportunity which exists within the first 72 hours after delivery. At this point the cost-effectiveness of the postpartum NVP regimen, as well as its ease of implementation, makes it a particularly desirable tool in the struggle to break the cycle of perinatal transmission. It is clear that PPVCT with the provision of PEP and infant feeding counselling remains an important strategy in PMTCT in untreated individuals.

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