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**Subject Headings/Subheadings**
Conference summary
Contraception
Gynaecology
Infant feeding/Breastfeeding
MTCT (Mother-to-Child Transmission)
Obstetrics
PMTCT/ARV (Prevention of Mother-to-Child Transmission/AntiRetroVirals)
Primary prevention of sexual transmission/VCT (Voluntary Counselling and Testing)
Termination of pregnancy/Abortion

**Citation format** (by alphabetical order of the authors)
Author(s). **Title.** Source.

Notes (prepared by the Bordeaux Working Group)
Author address, if available (for reprints)
URL, if available (link to author abstract/full text/journal TOC)

Subject Headings

Abstract: Since the first cases of HIV transmission through breast-feeding were documented, a fierce debate has raged on appropriate guidelines for infant feeding in resource-poor settings. A major problem is determining when it is safe and feasible to formula-feed, as breast-milk protects against other diseases. A cross-sectional survey of 113 women attending the programme for the prevention of mother-to-child transmission in Khayelitsha, Cape Town, was conducted. Over 95% of women on the programme formula-fed their infants and did not breast-feed at all. Seventy per cent of women said that their infant had never had diarrhoea, and, and only 3% of children had had two episodes of diarrhoea. Focus groups identified the main reasons for not breast-feeding given by women to their families and those around them. Formula feeding is safe and feasible in an urban environment where sufficient potable water is available.

Address: Infectious Diseases and HIV/AIDS Epidemiology Unit, School of Public Health and Family Medicine, University of Cape Town


Abstract: Short-course antiretroviral regimens have been evaluated to reduce mother-to-child transmission of HIV in resource-limited settings. This report from Abidjan, Cote d'Ivoire, examines the risk factors for HIV transmission by 1 and 24 months among breast-feeding women. Eligible HIV-1-seropositive pregnant women enrolled in this randomized double-blind clinical trial were randomly assigned to receive either oral zidovudine (ZDV) (n = 126) prophylaxis or placebo (n = 124). Maternal prophylaxis began at 36 weeks of gestation (300 mg ZDV twice daily antepartum and 300 mg every 3 hours intrapartum); there was no neonatal prophylaxis component. The cumulative risk of transmission in the treatment group was 11.9% and 22.1% by 1 and 24 months, respectively. In adjusted analyses, viral load at enrollment was the strongest predictor of transmission (per log increment: odds ratio [OR] = 4.8, 95% confidence interval [CI]: 2.5-9.5 at 1 month; OR = 5.7; 95% CI: 3.1-10.8 at 24 months). Overall, ZDV prophylaxis was not significantly protective for infection at 1 or 24 months. Comparing ZDV with placebo following dichotomization of viral load (<50,000 vs. greater than or equal to50,000 copies/mL) at enrollment, however, there was a significant effect of ZDV seen only among those women with a low viral load at enrollment. The substantial risk of transmission despite ZDV prophylaxis, particularly among those with higher viral loads, underscores the need to find more effective regimens appropriate for use in re source-limited settings.

Address: Division of HIV/AIDS Prevention-Surveillance and Epidemiology, National Center for HIV, STD, and TB prevention, Centers for Disease Control and Prevention, Atlanta, GA 30333, USA. djamieson@cdc.gov

PMTCT/ARV, Infant feeding/Breastfeeding


Notes: Since 1987, all pregnant women in St Petersburg, Russia, are offered voluntary counselling and testing for HIV-1 (ELISA tests and since 2002 sometimes rapid HIV-1 tests) during antenatal care (ANC) or at labour. All HIV-infected women and women known or suspected of being intravenous drug users (here used as a proxy for exposure to HIV-1 infection) receive antiretroviral prophylaxis according to the ACTG 076 zidovudine regimen or the HIVNET 012 nevirapine regimen. The authors report on the increasing HIV-1 prevalence in this population, assess the use of antiretrovirals for PMTCT and the frequency of infant relinquishment according to women's HIV-1 serostatus and access to ANC. Study results show that from 1998 to 2002, HIV-1 prevalence in women giving birth increased 100-fold, from 0.013% to 1.3% (p<0.0001). In 2002, the HIV-1 prevalence among women with and without ANC was 1% and 8%, respectively (p<0.0001). All HIV-1-infected women having attended ANC and 41% of HIV-1-infected women without ANC received intrapartum antiretroviral therapy (p<0.0001). Among HIV-1-infected women, 26% of those without ANC and 4% of those with ANC relinquished their infants to the custody of the state, compared with 1% of HIV-1-negative women (p<0.0001). This study suggests a link between the increasing prevalence of intravenous drug use (IVD) among HIV-infected women and the frequency of abandoned children. The authors thus argue for a combined effort to strengthen strategies for PMTCT and prevention of
orphanhood. Primary prevention of risk factors for MTCT such as increasing access to ANC and preventing IVD and unwanted pregnancies among women of St Petersburg should also be seen as critical.

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Abstract: Transmission of HIV-1 to the infant through breastfeeding is a major cause of new paediatric HIV-1 infections worldwide. Although extended breastfeeding accounts for approximately 40% of infant HIV infections worldwide, most breastfed infants remain uninfected, despite prolonged and repeated exposure to HIV-1. Mechanisms associated with transmission of HIV-1 through breastfeeding and factors related to protection from such transmission remain poorly understood. Here we focus on the cellular origin of HIV in breast milk and on immune factors within the milk that may offer protection from transmission of HIV infection. The presence of innate immunity and induction of adaptive immunity against HIV is explored: in particular, specific antibodies, cellular responses, and their significance. The role of mucosal immune activation and epithelial integrity in HIV transmission is also addressed. We are of the opinion that advances in laboratory methods that study specific aspects of immunity will help open new areas of understanding of HIV transmission through breastfeeding and mechanisms of protection, and contribute to the development of novel prevention strategies.

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Notes: The authors of this paper highlight that despite widespread knowledge of proven methods to prevent mother-to-child transmission (MTCT) of HIV, most infants at risk of contracting the infection from their mothers receive no prophylactic intervention. Even though, there is a simple single-dose antiretroviral regimen through the use of nevirapine (NVP), few women have access to MTCT-prevention services. Stringer et al argue for a goal-directed approach to scaling up such services where it would be necessary in many settings to dissociate the expansion of HIV-1 testing services from the simpler matter of providing NVP prophylaxis. PMTCT programmes need to concentrate on maximising the proportion of HIV-1 exposed infants in the population that receive the drug. For this, the authors propose that NVP should be offered to women who are at high risk of HIV-1 infection, but whose actual serostatus is not known to the health-care workers. This approach should be considered in three settings: 1) where services to prevent MTCT are planned, but do not yet exist (due mainly to the need of important but time consuming training); 2) where testing-based services are already established but where the overall uptake of testing is low due to fear of social stigmatisation, and domestic violence, among others) ; and 3) where VCT-based services to prevent MTCT are not feasible in the foreseeable future (areas of military conflict, refugee settings and health settings where resource and infrastructure limitations including understaffing are present with no short-term possibilities of improvement). A list of infections conditions and populations for which treatment or prophylaxis is commonly given without diagnosis in high-prevalence settings is presented. The paper concludes with comments on potential limitations of the proposed approach: implementation of HIV-1 testing services could be undermined and the potential for development of viral resistance to the non-nucleoside reverse transcriptase inhibitor class of antiretroviral drugs cannot be neglected.

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PMTCT/ARV, Primary prevention of sexual transmission/VCT