PMTCT Intelligence Report
Vol 3, Issue 12 (December 2003)

- Online Access -

prepared by the Bordeaux Working Group *


with financial support from the World Health Organization, Department of Reproductive Health and Research

Design of the bibliographic retrieval of this issue

Databases: Current Contents Life Sciences, Clinical Medicine, Social & Behavioral Sciences
(weeks # 46 to 49: November 17, 2003 to December 8, 2003; coverage: journal and book citations)

Number of citations screened for this issue: 1197

News Groups: AFRO-NETS, AMEDEO, CABA, Kaiser, Medscape, ProCAARE, RHO, UNAIDS e-Workspaces

Number of citations selected for this issue: 6 + Keywords and Author Index

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

Low rate of mother-to-child transmission of HIV-1 after nevirapine intervention in a pilot public health program in Yaoundé, Cameroon. 


Notes: This paper reports the results of an evaluation of the rate of MTCT of HIV-1 after NVP prophylactic intervention in Yaoundé, Cameroon. The study was conducted within a prospective public health pilot program running from January 2000 to December 2002. NVP-treated children were examined for HIV-1 infection at 6-8 weeks and 5-6 months. The authors estimated the effectiveness of the single dose NVP regimen used in a real life setting with only 13 infected children (10.6%) of the 123 children who had been tested and whose mothers had been treated (out of a total of 407). These results are not final as 166 children had not been tested yet at the time of analysis and 118 had incomplete test results. Nevertheless, the low coverage should be once more emphasized. Indeed, 15% of women attending the antenatal clinics were not tested, and among the 400 positive women who delivered or were lost to follow up, 153 (38%) did not receive NVP. The authors concluded that in the real-life setting of Yaoundé, the effectiveness of NVP at 6-8 weeks was not different from clinical trials, a result to be taken with caution considering the limitations outlined above. The low coverage of this programme has to be investigated and improved. 

Address: Eric Nerrienet, Centre Pasteur du Cameroun, BP 1274, Yaoundé, Cameroon (e-mail: nerrienet@pasteur.cm). 

URL: http://www.jaids.com 

Bertolli J, Hu DJ, Nieburg P, Macalalad A and Simonds RJ. 

Decision analysis to guide choice of interventions to reduce mother-to-child transmission of HIV. AIDS 2003; 17 (14): 2089-2098. 

Notes: This article aimed to guide population level decisions about MTCT intervention strategies. The authors developed a mathematical relation expressing children survival at 5 year old as a function of intervention strategies, transmission rates and R, the relative risk of mortality for children exposed to postnatal interventions compared with breastfed children (independent of HIV infection). Five intervention and their combinations were considered: 1) avoidance of breastfeeding, 2) perinatal antiretrovirals, 3) intrapartum and neonatal antiretrovirals, 4) postnatal antiretrovirals, 5) early weaning. The corresponding transmission rates were taken from the literature. R is the unknown variable and best intervention strategies will depend on its value. The results are the comparisons of the different strategies according to R values. The authors highlight the fact that strategies that include early weaning and avoidance of breastfeeding can result in more deaths than with no intervention when R>1.5 and 1.9, respectively. This interesting and simple model suffers from two main weaknesses: first, the hypotheses made to input parameters values are quite strong, like the under-5 mortality at 100% for HIV-infected children. Second, the key variable R is hardly ever known, making this method difficult to use in practice for decision makers. 

Address: Jeanne Bertolli, PhD, Prevention Support Office, Office of the Director, National Center for HIV, STD, and TB Prevention, Centers for Disease Control and Prevention, 1600 Clifton Rd. NE, Mailstop E07, Atlanta, GA 30333, USA. E-mail: ju6b7@cdc.gov 

URL: http://www.aidsonline.com 

Fowler MG, Mofenson L and McConnell M. 


Notes: This Editorial accompanies the manuscript by Bauer et al (not selected for the IR) which describes antiretroviral drug resistance among HIV-infected pregnant women enrolled in the Women and Infants Transmission Study (WITS) in the USA. Firstly, the editorial addresses the critical research questions regarding the interface of perinatal transmission and antiretroviral drugs. The main question for resource limited settings is whether widespread use of antiretrovirals such as nevirapine or zidovudine for PMTCT will lead to increased risk of treatment failure among women and those infants who become infected despite prophylaxis, both of whom may later require antiretrovirals for their own health care. The authors underline the lack of data to address these questions and acknowledge that this situation has contributed to increase the tension between treatment and PMTCT advocates, especially in developing countries. Secondly the authors summarize the data available about the resistance of antiretroviral treatment for PMTCT: zidovudine, nevirapine and lamivudine. The adverse events encountered when using NNRTIs for PMTCT are reviewed: teratogenicity with Efavirenz, rash hypersensitivity and hepatic toxicity among black HIV-infected pregnant women receiving chronic NVP therapy. Finally the authors conclude that the
impact of antiretroviral resistance on perinatal HIV prevention efforts among antiretroviral experienced women appears to be minimal, but relevant research is required to guide public health policy decisions in the future in the developing world.

Address: NA
URL: http://www.jaids.com

**PMTCT/ARV**


Notes: The issue addressed in this letter is an important one for which a partial solution is provided by the report. The authors compared treatment success on Efavirenz (EFV) containing HAART regimens for those previously exposed to Nevirapine (NVP) and who switched regimen due to rash or other toxicity with those without prior NVP exposure. Treatment success was defined as achieving viral loads of <400 RNA copies/mL at 1, 3, 4, 8 and 10-14 months following initiation of combination antiretroviral regimen that included EFV. No significant difference was found in the proportion of treatment success among those individuals with prior NVP exposure < 28 days (11/26; 42%) and those with no prior NVP exposure (210/495; 42%). The authors concluded that short course exposure to NVP may not affect later use of EFV-containing HAART regimens and underlined that it is urgent to assess the impact of combination antiretroviral regimens containing non nucleosides in women who previously received single dose NVP prophylaxis for PMTCT in resource-poor settings.

Address: NA
URL: http://www.jaids.com

**PMTCT/ARV**


Notes: This longitudinal study reports an analysis of all measures of haemoglobin, platelets, polynuclear neutrophils, total lymphocytes and the CD4+ and CD8+ lymphocyte subpopulations for more than 4000 HIV-1 uninfected infants. Haematopoiesis was studied in all uninfected infant exposed during the perinatal period to zidovudine monotherapy (n=1346), two or more antiretroviral drugs including zidovudine (n=1399). About one third (n=1504) of the infants were not exposed to antiretroviral treatment during the perinatal period. We summarize below the main results reported by the authors:
1) The haemoglobin level was transiently reduced in newborns exposed to zidovudine;
2) During the period from 0 to 6 weeks, infants exposed to zidovudine had significantly lower levels of neutrophils and lymphocytes than did untreated infants;
3) Between 6 weeks and 15 months and from 15 to 18 months, levels of neutrophils, lymphocytes and platelets were consistently significantly lower in infants treated with zidovudine than in untreated ones.
4) The authors described the relationship between the immune status of the mother at delivery and the lymphocyte count in the child. Total lymphocytes counts and particularly the CD4+ lymphocyte subset counts were significantly lower in the two groups of infants whose mother had CD4 counts below 500x10^6 cells/l than in the group of infants whose mothers had CD4 count of 500x10^6 cells/l or more.
In conclusion, ZDV administered during the perinatal period may in fact result in a small but significant and durable effect on haematopoiesis for all exposed infants, up to the age of 18 months, but the clinical significance of this biological observation is unknown.

Address: Stéphane Blanche, Unité d'Immunologie Hématologie Pédiatrique, Hôpital Necker Enfants Malades, 149 Rue de Sèvres, 75743 Paris cedex 15, France. E-mail: blanche@necker.fr
URL: http://www.aidsonline.com

**PMTCT/ARV**


Notes: Maternal syphilis screening and treatment has been identified as one of the most cost-effective ways to improve children's health. Nevertheless, only an estimated 38% of women attending for antenatal care in Africa receive syphilis screening. The authors of this report estimate the cost effectiveness (CE) of on-site antenatal syphilis screening and treatment in Mwanza, Tanzania. A generic outcome indicator, the disability adjusted life years
(DALYs), was used to enable comparison with other antenatal and child health interventions, specifically the prevention of mother-to-child transmission of HIV (PMTCT). The economic costs of adding the intervention to routine antenatal care were assessed retrospectively. CE ratios of the interventions were obtained for low birth weight (LBW), live births and studies of syphilis screening. The CE of the intervention at different syphilis prevalence rates was modelled. Results showed that the economic cost of the intervention is US $1.44 per women screened, $20 per women treated, and $187 per adverse birth outcome averted. The cost per DALY saved is $110 with LBW as the only adverse outcome. When including stillbirths, this estimate improves 10-fold to $10.56 per DALY saved. The cost per DALY saved from all syphilis screening studies ranged from $3.97 to $18.73. Comparison with studies from Kenya and Zambia showed that as syphilis prevalence rises, the CE of the intervention improves. Even at syphilis prevalence as low as 2%, antenatal syphilis screening and treatment remains cost effective ($33 per DALY saved including stillbirth). Terris-Prestholt et al conclude that syphilis screening is shown to be as cost effective as PMTCT and more cost effective than many widely implemented interventions. As so, and given the devastating impact of untreated maternal syphilis in pregnancy, there is a need to scale-up on-site syphilis screening and treatment to national level in sub-Sahara African countries.

Address: London School of Hygiene and Tropical Medicine, London, UK. Fern.Terris-Pretholt@lshtm.ac.uk
PMTCT
Keywords Index

Conference summary.  
03#2, 03#8, 03#10.

Infant feeding/breastfeeding.  
03#3, 03#5, 03#7, 03#8, 03#9, 03#10, 03#11, 03#12

MTCT, Infant feeding/Breastfeeding.  
03#2, 03#4, 03#5.

MTCT  
03#3, 03#4, 03#9, 03#10, 03#11

Obstetrics  
03#11.

PMTCT  
03#2, 03#12.

PMTCT/ARV, Infant feeding/Breastfeeding.  
03#1.

PMTCT/ARV  
03#1, 03#2, 03#3, 03#4, 03#5, 03#7, 03#8, 03#9, 03#10, 03#11, 03#12

PMTCT/ARV, Primary prevention of sexual transmission/VCT.  
03#4.

Primary prevention of sexual transmission/VCT  
03#1, 03#5, 03#6, 03#9

Authors Index

2nd IAS Conference on HIV Pathogenesis and Treatment. 03#8

10th Conference on Retroviruses and Opportunistic Infections. 03#2

13th International Conference on STD & AIDS in Africa. 03#10

Abrams EJ, et al. 03#7

Aguayo VM, et al. 03#3

Alimenti A, et al. 03#11

Alioum A, et al. 03#11

Annas GJ. 03#4

Ayouba A, et al. 03#12

Bardeguez AD, et al. 03#4

Barret B, et al. 03#10

Beckerman KP. 03#10

Bertolli J, et al. 03#12

Biggar RJ, et al. 03#11

Bland RM, et al. 03#10

Brahmbhatt H, et al. 03#7

Brayfield BP, et al. 03#4

Chaisilwattana P, et al. 03#1

Claeson M, et al. 03#9

CoulibalyTraore D, et al. 03#4

Coutsoudis A, et al. 03#5, 03#10

deVlas SJ, et al. 03#1

Farley T, et al. 03#1

Fowler MG, et al. 03#12

Ghosh MK, et al. 03#8

Giuliano M, et al. 03#9

Hoffman IF, et al. 03#11

Jackson JB, et al. 03#10