

APPENDIX D: INTERVENTIONS TO REDUCE THE RISK OF MOTHER TO CHILD TRANSMISSION: SUMMARY OF THE EVIDENCE

HIV transmission from an HIV-infected mother to her infant occurs in 25% to 45% of cases without intervention. Primary prevention of Mother-to-Child Transmission (pMTCT) strategies include prevention of women becoming infected and counselling those who are HIV-positive on making informed choices about their reproductive health. With antiretroviral prophylaxis and nutritional supplementation, the risk of MTCT can be reduced to less than 5%.

In 1994, results of the Paediatric AIDS Clinical Trials Group study 076 (PACTG 076) showed a two-thirds reduction in perinatal transmission from HIV-infected women who received a complex regimen of AZT.ⁱ In developing countries, simplified AZT regimens in Thailand and Côte d'Ivoire have demonstrated transmission reductions of one-third in breastfeeding populations and one-half in non-breastfeeding populations.ⁱⁱ A trial in Uganda (HIVNET 012) of single-dose nevirapine (SD NVP) given to mother and neonate showed a reduction of approximately 50% in a breastfeeding population.ⁱⁱⁱ More recently, short-course therapy with AZT plus 3TC decreased the transmission rate to between 6% and 15% in a breastfeeding population, and to 3% if breastmilk substitutes were implemented.^{iv} In the United States, with the use of HAART, Caesarean delivery, and breastmilk substitution, transmission rates are less than 2%,^v and similar successes have been reported in Europe.^{vi} In various Caribbean islands, PMTCT with AZT prophylaxis has reduced transmission rates from 27% to 44% to 5.5% to 9%.^{vii} More recently, a Thai trial using AZT initiated during the second trimester plus SD NVP during labour followed by SD NVP plus one week of AZT for the infant resulted in a transmission rate of less than 2% in a non-breastfeeding population.^{viii}

The frequency of breastmilk transmission during acute maternal infection is estimated to be at 29%, and for women with established infection, the additional risk of transmission is estimated at 14%.^{ix} In a randomised clinical trial in Nairobi, the frequency of breastmilk transmission of HIV was 16.2%, and the majority of infections occurred early during breastfeeding. The use of breastmilk substitutes prevented 44% of infant infections and was associated with significantly improved HIV-free survival, which is a similar magnitude to the short-course regimens of AZT.^x A study on the influence of feeding patterns in MTCT showed that at age three months, 18.8% of infants who were not breastfed were estimated to be HIV-infected compared with 21.3% of those who were breastfed. The estimated proportion of infants HIV-infected by three months was significantly lower for those who exclusively breastfed than in those who received mixed feeding (14.6% versus 24.1%) and had a similar risk of transmission to no breastfeeding.^{xi}

Additional information on the efficacy of interventions to reduce the risk of MTCT can be found in *Chapter VII: Antiretroviral Therapy in Pregnant Women and Prevention of Mother-to-Child Transmission of HIV* and in *Appendix A* of that chapter.

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- ^{ix}Dunn DT, Newell ML, et al. Risk of human immunodeficiency virus type I transmission through breastfeeding. *Lancet* 1992;340:585-88.
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