Evidence Update

Summary of a Cochrane Review

Maternal Health Series

Does giving pregnant women or their newborn babies a short course of antiretroviral drugs reduce HIV transmission to the baby?

Both short and longer regimens of antiretroviral treatments reduce transmission of HIV from mothers to babies.

Background

Millions of children worldwide acquire HIV/AIDS as a result of mother-to-child transmission during pregnancy or breastfeeding. A course of antiretroviral drugs given to pregnant women and their newborn babies could reduce the risk of mother to child transmission

Inclusion criteria

Studies:

Randomized controlled trials.

Participants:

Pregnant women with HIV, or infants born to mothers with HIV.

Intervention:

Any antiretroviral (ARV) regimen aiming to decrease the risk of mother-to-child transmission of HIV.

Outcomes:

In the baby: HIV infection status up to 18 months, death, severe adverse events.

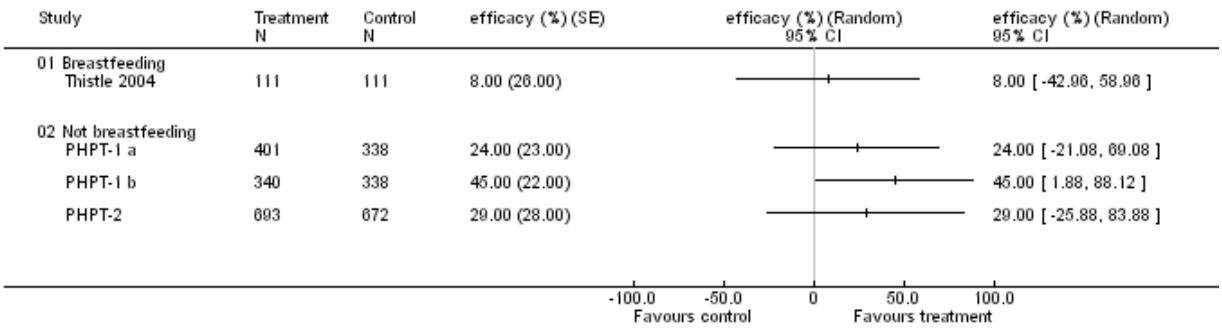
In the mother: severe adverse events.

Results

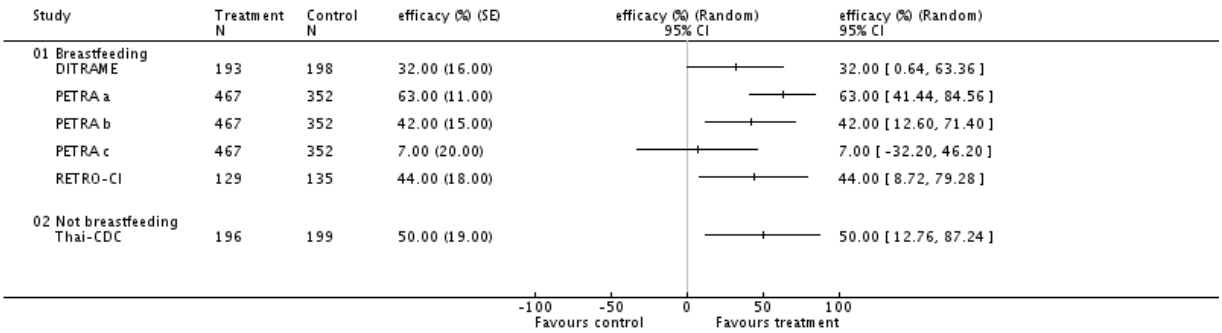
- Eighteen trials involving 14,398 women were included; 11 trials were adequately concealed.
- Six trials compared zidovudine (ZDV), alone or with lamivudine (3TC) with placebo. Taken in the antenatal period and during labour, fewer babies in the ZDV groups had HIV infection. Efficacy ranged from 10% to 66%.
- Four trials compared longer and shorter regimens of the same drugs. In one trial, ZDV for mothers from 28 weeks of pregnancy, during labour, and for babies for three days reduced HIV infection at six months (efficacy 45%), compared with ZDV for mothers from 35 weeks, during labour and for babies for six weeks. There were no significant differences detected for other comparisons.
- Eight trials compared different drugs with ZDV, either alone or in combination. One trial compared single dose nevirapine (NVP) for mothers in labour, plus a single dose for babies immediately after birth versus single dose ZDV in labour and for babies for one week after birth; fewer babies in the NVP group had HIV infection at 18 months (efficacy 39%). There were no significant differences detected in trials of other comparisons.
- No severe adverse events were found in any trial.

Adapted from Volmink J, Siegfried NL, van der Merwe L, Brocklehurst P. Antiretrovirals for reducing the risk of mother-to-child transmission of HIV infection. *Cochrane Database of Systematic Reviews* 2007, Issue 1. Art. No.: CD003510. DOI: 10.1002/14651858.CD003510.pub2. *Evidence Update* published in May 2010.

Longer vs shorter ARV regimens: HIV infection at 6 months



Antiretrovirals vs placebo: HIV infection at 4 to 8 weeks



Authors' conclusions

Implications for practice:

Short ARV treatment courses reduce the transmission of HIV from mothers to their babies. A range of ARV regimens appear effective: these include regimens started antenatally, and those given immediately after birth. It is not yet clear which regimen is best.

Implications for research:

Further large, well designed trials are needed to identify treatment regimens that minimize the likelihood of resistance emerging, as are studies assessing long-term safety of ARV drugs in mothers and babies.

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