Timing of breast milk HIV-1 transmission: a meta-analysis

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Abstract:

: To define the frequency and timing of breast milk transmission of HIV-1. DESIGN: Meta-analysis of data abstracted from published literature. SUBJECTS: Participants in prospective cohort studies of MTCT of HIV-1. Cohorts were separated on the basis of breast feeding duration. INTERVENTIONS: None. MAIN OUTCOME MEASURES: HIV-1 transmission rates. RESULTS: Two thousand three hundred and seventy five HIV-1 infected women and their infants, 499 of whom breast fed, the estimated risk of breast milk HIV-1 transmission was 16% (95% CI: 9, 22%). Among breastfeeding infants, forty seven per cent of HIV-1 infections were attributable to breast feeding. Breast milk transmission risk was 21% (95% CI: 10, 33%) in cohorts with mean/median duration of breast feeding > or = 3 months and 13% (95% CI: 4, 21%) in cohorts with median duration of breast feeding < 2 months. In a separate analysis of 702 infants with prolonged duration of breast feeding, the risk of late postnatal transmission (infection occurring later than three to six months of age) was four per cent (95% CI 2, 5%). CONCLUSIONS: This analysis suggests that breast milk transmission of HIV-1 is substantial and continues throughout the postnatal period. Early cessation of breast feeding at six months would avert some but not most infant HIV-1 infections due to breast feeding. While recently published studies showing some effectiveness of antiretrovirals early during the breast feeding period are encouraging, prevention of breast milk HIV-1 transmission needs to remain a high research priority