

Mother-to-child transmission of human immunodeficiency virus type 1 (HIV-1) is a significant problem in countries with endemic HIV-1 infection. Between 1986 and 1991, 365 children of HIV-1-infected mothers and 363 control children were studied in Kenya. The overall risk of transmission from mother to child, determined by serologic evidence of infection by age \geq 12 months and excess mortality in the HIV-1-exposed group, was 42.8% (range, 27.6%-62.2%). Marriage was the only maternal characteristic associated with transmission (odds ratio, 2.2; 95% confidence interval, 1.2-4.2; $P < .05$). Children who experienced growth failure were more likely to be infected. In 44% of children ultimately infected, the pattern of antibody response implied intrapartum or postnatal exposure to HIV-1. Of potential postnatal exposures examined, duration of breast-feeding beyond age 15 months and the mother being married were independently associated with increased risk of infection and seroconversion of children. The percentage of HIV infection attributable to breast-feeding \geq 15 months was 32%. The frequency of mother-to-child transmission of HIV-1 was high; a substantial proportion of infection occurred postnatally, possibly through breast-feeding.