

We have completed a randomized clinical trial of breastfeeding and formula feeding to identify the frequency of breast milk transmission of HIV-1 to infants. However, we also analyzed data from this trial to examine the effect of breastfeeding on maternal death rates during 2 years after delivery. We report our findings from this secondary analysis. **METHODS:** Pregnant women attending four Nairobi city council clinics were offered HIV tests. At about 32 weeks' gestation, 425 HIV-1 seropositive women were randomly allocated to either breastfeed or formula feed their infants. After delivery, mother-infant pairs were followed up monthly during the first year and quarterly during the second year until death, or 2 years after delivery, or end of study. **FINDINGS:** Mortality among mothers was higher in the breastfeeding group than in the formula group (18 vs 6 deaths, log rank test, $p=0.009$). The cumulative probability of maternal death at 24 months after delivery was 10.5% in the breastfeeding group and 3.8% in the formula group ($p=0.02$). The relative risk of death for breastfeeding mothers versus formula feeding mothers was 3.2 (95% CI 1.3-8.1, $p=0.01$). The attributable risk of maternal death due to breastfeeding was 69%. There was an association between maternal death and subsequent infant death, even after infant HIV-1 infection status was controlled for (relative risk 7.9, 95% CI 3.3-18.6, $p<0.001$). **INTERPRETATION:** Our findings suggest that breastfeeding by HIV-1 infected women might result in adverse outcomes for both mother and infant.