

HIV and infant feeding practices: epidemiological implications for sub-Saharan African countries

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Abstract

In industrialized countries HIV-1-seropositive mothers who are nursing infants are advised to use artificial feeds, whilst HIV-infected women in the developing world are recommended to breast-feed. Current evidence is insufficient even to estimate the attributable risk associated with breast-feeding. There is a possibility that the policy promoted in industrialized societies will eventually become established in urban and peri-urban areas of sub-Saharan Africa. This may be defensible for some elite urban mothers providing safe artificial feeding. However, calculations of the consequence of any population-level change to bottle-feeding indicate that it would result in more deaths from infectious causes, substantially adding to the child deaths directly attributable to HIV-1 infection. These data demonstrate that there is a clear need for policy-makers and health care workers to undertake further promotion of breast-feeding despite the AIDS epidemic.

PIP: The 3 retrospective studies conducted to date have involved a total of 12 children exposed to human immunodeficiency virus (HIV) via breastfeeding have yielded findings of 8 cases in which breastfeeding did appear to have led to HIV transmission and 4 cases where the children did not become infected. These findings, as well as the detection of HIV-1 in the breast milk of 3 women, have led to a policy in most developed countries that HIV-positive mothers are advised to use artificial milk. Of concern, however, is the possibility that this policy may become adopted in sub-Saharan African countries where child mortality from infectious diseases associated with bottle-feeding greatly exceed the risks of HIV transmission through breastfeeding. Compared to exclusively breastfed infants, artificial feeding in sub-Saharan countries is associated with a 1.8-2.6 times greater risk of post perinatal mortality. To examine the impact of changes in infant feeding practices in this regions, a model sub-Saharan country with an infant mortality rate of 90/1000 live births (ignoring the effects of HIV) was constructed and a 10% rate of maternal HIV infection, a 30% vertical transmission rate of HIV, and a 20 % HIV-associated infant mortality rate were assumed. To allow for competing causes of death, the number of infants dying from HIV infection was reduced by 10%. Calculations suggest that a reduction from 90% to 75% in the prevalence of breastfeeding would result in an increase in infant wastage of 1780 at best and 3580 at worst. The maximum (assuming a transmission rate of 100%) saving in infant wastage if breastfeeding were entirely eliminated would be only 630. Although more research is needed on the true level of risk from breastfeeding by HIV-infected mothers, it is recommended that breastfeeding should be continued in developing countries where artificial feeding does not present a safe alternative, irrespective of the prevalence of HIV-1.

