HIV AND BREASTFEEDING:

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Transmission of HIV from mother to child mainly occurs *in utero* and during birth, infecting up to 20% of babies born to HIV-positive women. Breastfeeding has also been shown to contribute to vertical transmission from mother to baby.

When WHO, UNICEF and UNAIDS published their official policy on infant feeding stating “when children born to women living with HIV can be ensured uninterrupted access to nutritionally adequate breastmilk substitutes that are safely prepared and fed to them, they are at less risk of illness and death if they are not breastfed” (1) it was seen in many quarters, particularly the international press, that UN agencies were advising most HIV-infected mothers not to breastfeed. Others questioned the wisdom of this policy (2, 3) when the disadvantages of not breastfeeding still apply, and so little is known about the feasibility of different feeding options. This has led to policy-makers in several countries and AIDS researchers doubting whether it is still a good idea to promote breastfeeding (3). Resources have been diverted to fund HIV programmes, many of which have paid scant attention to the issue of breastfeeding. Baby milk companies are influential in this process.

1.5 million babies/year in the world, however, still die from not being breastfed. It is estimated that 500 000 children die each year as a result of being HIV-infected by transmission during pregnancy, birth, and breastfeeding. The benefits of breastfeeding in the developing world are enormous; 59% of child mortality is due to illness, against which breastfeeding is known to be protective, whereas only 1% is due to AIDS (4). Studies in the developing world show that infants not breastfed are 6 times more likely to die from infectious diseases in the first two months of life (2), and 14 times more likely to die from diarrhoeal diseases (1) than those who are breastfed.

A study in Malawi concluded that HIV transmission through breast milk is greatest in the early months of feeding, and decreases with the duration of breastfeeding (5). Yet a Kenyan trial with randomised breastfeeding or formula feeding found that infant mortality was similar between the two arms, but HIV-free survival at 2 years was significantly lower in the breastfeeding arm (6) and more breastfeeding mothers died (7).

These studies are difficult to interpret as in societies where breastfeeding is the cultural norm, total compliance with replacement feeds is difficult to achieve, as it identifies a new mother as HIV infected, even causing ostracism and violent abuse (8). In the Nduati study, 30% of babies in the formula arm were also breastfed.

Like other papers that have used incomplete or incorrect definitions of breastfeeding, and found that breastfeeding transmits HIV in about 15% of cases (9) Nduati *et al.* received much more media attention than the study (10) which showed that exclusive breastfeeding from birth did not seem to transmit much HIV. At 3 months 18.8% of never-breastfed children were estimated to be HIV infected, 14.6% of those exclusively breastfed, as opposed to 24.1% of those mixed-fed. A subsequent publication (11) of the same prospective study found that babies exclusively breastfed for 3 months or more had no excess risk of HIV over 6 months, versus those never breastfed. Their cumulative probability of HIV infection remained lower than among other breastfeeding mothers (24.7% as opposed to 35.9%).

Exclusive breastfeeding is increasingly seen to have benefits for all babies, but it is thought to be particularly important for those of HIV-positive mothers. One of the most likely mechanisms for HIV transmission is that HIV crosses into the baby's bloodstream through breaches (3,12) in the mucosal lining. Factors that cause disruption of the integrity of the mucous membranes, such as suction at birth, giving pre-lacteal feeds, water, and other complementary foods, are associated with increased risk of HIV transmission through breastfeeding. Oral thrush in the baby (13) and mastitis in the mother may also increase transmission (14). Therefore HIV-infected women should be counselled about good breastfeeding techniques to avoid breast and nipple problems, and breast infections that occur should be treated rapidly.
Human breastmilk contains lactoferrin, which has known antiviral properties, which denature HIV, and lysozymes which destroy HIV. Those babies who are HIV infected during pregnancy and birth would benefit from being breastfed (13,15).

To date other alternative substitutes for breastfeeding have been given only cursory acknowledgement. These include wet-nursing by a non-HIV infected relative (3), and expressing or pumping the mother's breast milk, then treating it in such a way as to deactivate the HIV (13).

The UN Guidelines 1998 also state "Women should be supported in their choice of infant feeding method, whether they choose breastfeeding or replacement feeding". In the developed world, artificial feeding is always recognised as a right for HIV-negative women to choose despite the risks entailed, but breastfeeding is often not allowed if the woman has HIV (1). There is a lack of research in developed countries, specifically that which compares the health outcome of children born to HIV-positive women in breast- and formula-fed cohorts.

In England the Department of Health has issued a circular that pregnant women should be routinely offered and recommended an HIV test. Questions arise regarding choice and the role of midwives. Do HIV-positive women really have a choice as to how they feed their infants? Are midwives able to support women in their choice? (16) If an HIV-positive woman decides to breastfeed the role of the midwife is unclear. In Camden (1999) a court ordered a mother who was in excellent health but HIV-positive to have her five-month (breastfed) baby tested. The couple concerned left the country before the court order could be enforced and are still missing.

The subject of HIV and infant feeding is complex, as is the dilemma posed by it (17). More research urgently needs to be done into the social, economic, health advantages and disadvantages of different feeding methods, including both exclusive breastfeeding and artificial feeding, for HIV-positive mothers and babies.

**Keypoints**

- In studies where breastfeeding is not clearly defined, and without antiviral treatment, about 1 in 7 babies born to HIV-positive women, become positive themselves via breastfeeding.
- A recent prospective study has shown that babies exclusively breastfed for three months or more have no excess risk of HIV infection over six months, than those never breastfed. Babies who were fed breastmilk and formula, or other drinks and foods had the highest rates of transmission.
- There is a danger that doubts around the advisability of HIV-positive women breastfeeding spill over to reduce enthusiasm for breastfeeding in society.
- Now that all pregnant women are recommended to have an HIV test in the UK, there is concern over women's access to full information to make decisions about the test itself and subsequent options.

**References:**

15. Lewis, P. 1991. HIV and Breastfeeding Topics in Breastfeeding III. Lactation Resource Centre, Nursing Mothers Association of Australia, Victoria, Australia
16. RCM, DoH. HIV and Infant Feeding. Report of a Seminar, 30 June 2000. (This is £5.60 and is available from RCM publications dept on 02920 667972 (10am - 2pm) Fax 02920 228333. -- recommended reading)