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THE PREVENTION OF MOTHER-TO-CHILD HIV TRANSMISSION AND INFANT FEEDING PRACTICES.

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Summary

Since the first cases of HIV transmission through breastfeeding were documented, a fierce debate has raged on appropriate guidelines for infant feeding in resource poor settings. A major problem is determining when it is safe and feasible to formula feed as breast milk protects against other diseases.
A cross-sectional survey of 113 women attending the programme for the prevention of mother-to-child transmission in Khayelitsha, Cape Town was conducted.
Over 95 % of women on the programme formula-fed their infants and did not breast feed at all .Seventy percent of women said that their infant had never had diarrhoea, and only three percent of children had two episodes of diarrhoea. Focus groups identified the main reasons for not breast-feeding given by women to their families and those around them. Formula feeding is safe and feasible in an urban environment where sufficient potable water is available.

Introduction

Infants can acquire HIV from their mothers during pregnancy, at delivery, or through breastfeeding. About 20 % of transmission occurs during pregnancy and the remaining 80 % during delivery and through extended breastfeeding up to 24 months. [1 2]

In the absence of interventions to reduce Mother to Child Transmission (MTCT) studies show that between 25 and 45 % of HIV-infected breastfeeding women pass the virus to their infants. The rate of HIV transmission through breast-milk ranges from 12 to 26 %, depending on the duration of breastfeeding, the time since HIV infection and the presence of mastitis or other systemic infections.[3] HIV can be transmitted through breastfeeding at any time, although there is evidence that the risk is greater earlier. [4] Twenty five to thirty percent of HIV-infected infants die by 12 months of age, and about 50 to 60% one-half to two-thirds die by their fifth birthday.[5]

Between 1.1 and 1.7 million infants have become infected with HIV through breast milk since the beginning of the HIV epidemic. The World Health Organisation (WHO) Technical report on MTCT and HIV recommends replacement feeding where acceptable, feasible, affordable, sustainable and safe.[6] The great difficulty which has given rise to a fierce debate is determining when the above conditions are met. Breast milk protects against infections such as gastro-enteritis and respiratory infections but also carries the risk of HIV transmission. Women are faced with the difficult choice of balancing the risk of transmitting HIV through breastfeeding and the risk of increased

morbidity through replacement feeding. In addition women who do not breast feed may be stigmatised.

The Khayelitsha health sub-district is made up of 2 midwife obstetric units (MOU), 3 Community Health Centres and 8 Local Authority Clinics. The population is estimated to be 500 000 and there is migration to and from rural areas. In January 1999, the Western Cape Provincial Health Department implemented a programme for the PMTCT in Khayelitsha. The programme uses a short course modified Thai regimen. This includes voluntary testing and counselling and the provision of Zidovudine from 34 weeks gestation and in labour. Women are encouraged to formula feed, and formula is given free of charge to women who choose to do so until 9 months of age. Approximately 7000 women deliver at the MOUs each year. The antenatal HIV positivity rate has increased from 15 % in 1999 to 25 % in 2002.

This study assesses the distribution and duration of feeding practices as well as the acceptability of different feeding practices in HIV-positive mothers in the PMTCT programme in Khayelitsha.

Methods

A consecutive sample of 113 women was interviewed at clinics. Focus groups were held with 38 mothers to explore knowledge, attitudes, social constraints and general perceptions on infant feeding. All interviews were conducted in private in Xhosa and informed consent was obtained. Ethics clearance was obtained from the University of Cape Town.

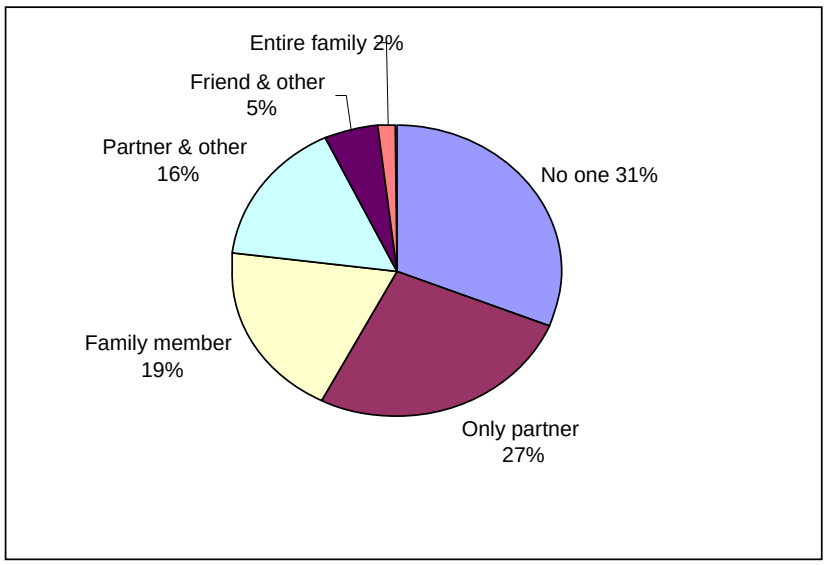
Exclusive breast feeding was defined as only breast milk taken, no other solid or liquid, including water and herbal teas and replacement feeding as formula and no breast milk but other liquids not contraindicated.

Results

The response rate was 98%. The mean age of mothers was 26 years (range 17 to 38 years of age). Eighty seven percent of mothers had less than three children. The mean age of babies was 12 weeks and there were an equal number of girls and boys.
The median time of residence in Khayelitsha was 6 years (range 3 months to 15 years) and 86 % of women stated they would like to remain in Khayelitsha. Over ninety five percent of women did not breast fed at all. Three women breast fed for one day and two women breast fed for a week. Sixty three percent of women stated they took the decision not to breast feed in view of their HIV status. Thirty seven percent stated that they were told by health staff (including counsellors) not to breast feed because of their status.

Thirty percent of mothers recalled that their infant had one or more episodes of diarrhoea. Three women reported two occasions of diarrhoea. Seventy one percent of women have running water available either in their house or in their yard. Twenty nine percent of women have to walk a median time of 6 minutes to fetch water. Seventy five percent of women stated they have electricity in their house.

Figure 1: General disclosure of HIV status



Sixty nine percent of women had disclosed their HIV status to another person. However less than half the women had disclosed their status to the father of their child. When asked about disclosure in their household, forty three percent of women had not disclosed their status to any household member. Only 10 % of women had disclosed their status to all members of their household.

Focus groups identified the main reasons given by women to their families and those around them for not breast feeding. These included the fact that they had a caesarean section, tuberculosis, high blood pressure, bad milk, problems with feeding the previous child, or that they were employed. Being employed frees mothers of the "social obligation" of breast feeding. In all focus groups women stated that formula feeding together with breast feeding (mixed feeding) has been the norm for many years and went unquestioned. However more questions were asked since the advent of HIV. One woman summarised this in the following way "When people ask me why I am formula feeding what they are really asking is: am I HIV positive?"

Women who had previously breast fed a child gave different responses to those who had not. The latter group experienced regret, and one woman spoke of the emotional pain of not breast feeding. All women felt that the choice of feeding method should remain with the mother whether she is working or not. As one woman said "a woman should not be forced to breast feed just because she does not have a job" Most women felt that the support groups provided an opportunity to discuss and share issues and emotions relating to the choice of feeding practice and ways to deal with this.

Discussion

The overwhelming majority of women chose formula feeding and managed to exclusively formula feed despite the fact that the stigma associated with HIV is still high. The three women who breast fed for one day stated this was while waiting to disclose at home. The two women who breast fed for one week had wanted to exclusively breast feed, but one fell ill and the other developed mastitis and both switched to formula feeding.

Most felt that they had made a free choice and had not been coerced into replacement feeding. A recent study[7] has shown that child mortality as a result of the voluntary non-initiation of breastfeeding is much lower than previously estimated, after controlling for preceding morbidity in the mother or the child. The study shows that there is a net HIV-free survival benefit of 13. 2% associated with the voluntary non-initiation of breastfeeding, and that the use of formula increases overall child survival. Clear information should be given on the risks and benefits of different feeding practices early in the PMTCT programme and women should decide themselves. The best way to support mothers is through antenatal support groups, which should be an integral part of PMTCT. The decision on feeding options should be made before the birth of the child.

According to the health information system in Khayelitsha the incidence of diarrhoea is low and has not increased since the introduction of the PMTCT programme.

Although the PMTCT programme had been running for three years, the fact that almost 40% of women had not disclosed to anyone in their household and that over 50% had not disclosed to the father of their child, indicates that stigma around HIV is still high. The burden of having to conceal their status and lie about the reason for formula feeding is heavy. The fact that some women reported rejection on disclosure of their status further indicates that stigma is high. Women accept testing, the constraints of weekly visits to the MOU, and not breast feeding in the hope of preventing HIV transmission to their child. This study shows that the conditions required for safe formula feeding are present in Khayelitsha.

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References

1. De Cock KM, Fowler MG, Mercier E, et al. Prevention of mother-to-child HIV transmission in resource-poor countries: translating research into policy and practice. *JAMA.* 2000; **283**: 1175-1182.

2. Dunn DT, Newell ML, Ades AE et al. Risk of human immunodeficiency virus type 1 transmission through breast feeding. *Lancet.* 1992; **340**:585-588.

3. Leroy V, Newell ML, Dabis F et al. International multicentre pooled analysis of late postnatal mother-to-child transmission of HIV-1 infection. *Lancet.* 1998; **352**: 597-600.

4. Miotti PG, Taha TET, Kumwenda NI et al. HIV transmission through breastfeeding: a study in Malawi. *JAMA.* 1999; **282**: 744-9.

5. Lepage P, Spira R, Kalibala S et al. Care of HIV-infected children in developing countries *PIDJ*. **17**(7) 581-586

6. WHO Technical Report on behalf of UNFPA/WHO/UNAIDS Inter-agency MTCT task team. WHO Geneva: October 2000:

7. Brahmbhatt H, Gray RH. Child mortality associated with reasons for non-breastfeeding and weaning: is breast feeding best for HIV-positive mothers? *AIDS.* 3003; **17**: