

Breastfeeding practices and attitudes relevant to the vertical transmission of HIV in rural south-west Uganda

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Summary Breastfeeding has been associated with a doubling of the risk of HIV transmission. In developed countries, it is recommended that HIV-positive women do not breastfeed, but this is not a feasible option in most of Africa. It is therefore important to know the extent to which breastfeeding practices are amenable to change. To study this, we carried out 24 focus group discussions with 208 women attending maternity clinics in three rural sites in rural south-west Uganda. Breastfeeding starts from a few minutes to a few days after delivery; most women reported starting after 2 days. The main reason for delay is lack of milk or that the breasts are 'blocked'. Most women thought that this delay was good for the baby, or at least not harmful. Almost all women reported giving the child a soup made of boiled mushrooms before starting to breastfeed. Once they have started breastfeeding, various supplementary foods are gradually introduced at 4–6 months. Women thought that ideally breastfeeding should last for 2–3 years, but in practice most stopped after 18 months. The father and his female relatives generally decide when the child should be weaned. The women thought that commercial milk formula foods were good but could not use them because they are too expensive and anyway unavailable in rural areas. Most women were unaware that HIV could be passed to the child through breastfeeding. Various practices identified as potentially risky are common in this population. Artificial feeding is not a viable option in this area, and although women were prepared to make sacrifices to prevent vertical transmission of HIV, practices are deeply ingrained in traditional culture and will need to be addressed in future interventions. Male partners will also need to be involved.

Introduction

There is a consensus that HIV can be transmitted to infants by breastfeeding.^{1–3} A meta-analysis suggests that the additional risk of infection through breastfeeding is between 7 and 22%, and according to observational studies in South Africa, Brazil and Europe breastfeeding doubled the overall vertical

transmission rate.² Transmission through breastfeeding has been estimated at one-third to one-half of all mother-to-child transmission in Côte d'Ivoire and Rwanda.^{4,5} Results of a recent randomised clinical trial in Kenya show a frequency of HIV transmission through breast milk of 16.2%.⁶ It has been estimated that the risk of HIV transmission through breast milk after 3 months of age is about 3/100 child-years of breastfeeding.⁷

UNICEF, WHO and UNAIDS pronounced in mid-1998 that HIV-positive mothers should be counselled and given the option

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to breastfeed or be helped to use other alternatives.⁸ However, the adaptation of these guidelines for mothers living in resource-poor rural settings poses major challenges. In most of Africa, there are no realistic alternatives to breastfeeding; even when commercial milk formula feeds can be obtained and are affordable, women might still need to boil all water necessary for making up the feed and for sterilising the containers. Mathematical models demonstrate that changing to artificial feeding would result in a decline in child survival.¹

Research and modelling exercises suggest that early weaning should be explored as a possible intervention, since the risk of HIV transmission continues as long as breastfeeding does while the benefits of breastfeeding diminish with time.⁹ In addition, it is suggested that the risk of HIV transmission might be lower when exclusive breastfeeding is practised because early introduction of solids or pathogens might disturb the integrity of the infant gut mucosa. Assuming a relative risk of about 2.5–3.0 of infant mortality owing to artificial feeding compared with breastfeeding in a rural African setting, mathematical models have concluded that in rural settings the best option is to promote breastfeeding for all seronegative women and to promote optimal breastfeeding (exclusive breastfeeding for 4–6 months) for all seropositive mothers.¹⁰ A pragmatic approach would be to encourage seropositive mothers to breastfeed exclusively for 4–6 months but to avoid feeding if they have bleeding nipples.¹¹ This has been supported by a study in South Africa which found that, at 3 months of age, HIV transmission is significantly lower in exclusively breast-fed infants (15%) than in those who received mixed feeding (24%).¹²

A recent study in Uganda has shown that two doses of nevirapine to the mother at onset of labour and to the infant within 3 days of birth reduced vertical transmission by 48% compared with AZT, and that this is potentially cost-effective.^{13,14} However, given the fact that a single dose will remain active for a short time only, that vertical transmission can still occur through breastfeeding and that

avoiding breastfeeding is not an option in rural Africa, it has been suggested that nevirapine be combined with exclusive breastfeeding for 6 months. However, before such recommendations can be made, it will be necessary to investigate existing practices and attitudes relating to breastfeeding.^{1,3} In this paper, we report the results of a study of attitudes and practices relating to breastfeeding carried out in three rural areas in south-west Uganda. In the study area, the prevalence of HIV in the adult population is about 8%¹⁵ and is estimated to be just over 10% in pregnant women.¹⁶

Methods

Twenty-four focus group discussions (FGDs) were held with 208 women attending seven maternity clinics in three rural areas. FGDs are among the most widely used methods for collecting qualitative data, the idea being that participants themselves discuss the relevant topics while the facilitator keeps the discussion moving and on track.^{17,18} In this study, there were between six and ten participants in each FGD, and they were supervised by an expert facilitator and an assistant who took notes recording body language and impressions and operated a tape recorder. An attempt was made to recruit women who had at least one child so that most of the participants had personal experience of breastfeeding.

All FGDs were transcribed verbatim in the vernacular (Luganda), which was then translated into English. These texts, together with the assistant facilitator's notes, were entered into Atlas-ti (Scientific Software Development, Berlin), a software program based on the grounded theory approach and designed to assist in the coding and analysis of large amounts of textual data. Texts and observations were coded using inductively generated codes to label important themes and topics, and coded segments were then compared both within and between FGDs, thus generating higher-order generalisations.^{19–21} The presentation below closely follows the sequence in which the various topics were

discussed in the FGDs. This reflects the natural flow of the FGDs.

Results

Study population

The median age of the respondents was 23 years (range 14–38) and their median number of children was three (range 0–9). All were housewives or peasant farmers.

Commencement of breastfeeding

Women begin breastfeeding at any time from a few minutes to a few days after delivery but most reported having begun after 2 days. Some women reported putting the child to the breast immediately to stimulate contraction of the uterus.

The main reason given for delaying breastfeeding is that initially there is no milk in the breasts or that they are ‘blocked’ by *buti* or *enti*, literally small sticks. Various other reasons given included the infant not showing initiative or refusing to breastfeed, the mother experiencing pains when the baby sucks or finding breastfeeding sexually stimulating (*obunyonyogeze*), and health-related reasons such as the mother being ill or experiencing inflammation or abscesses in her breasts.

Colostrum

Women referred to the milk that comes out after the *buti* have been removed as *mwondo*, *gamusalira* or *bongo*. About half of the women either said that they thought it was good for the baby (because they had been told this by the midwife or at the antenatal clinic) or at least they did not see anything wrong with it (i.e. it was not harmful). However, in the discussion of the *buti* there was much talk of having to ‘squeeze out the colostrum’ to get rid of the *buti* before breastfeeding could commence. And some women said explicitly that they thought colostrum was bad because it contained ‘germs’. They claimed it was ‘dirty’ with ‘pus’ or *buti* and had an unpleasant smell,

thus causing fever, vomiting, stomach-ache, diarrhoea or constipation in the baby. A few women believed the colostrum was bad, that it had turned sour because it had stayed too long in the breasts and was therefore unfit for the baby. Opinions on this were very clearly related to location (i.e. in some locations women seemed to be receiving more adequate information from antenatal clinics than in others).

Food before breastfeeding

Most women reported giving the child various liquids before starting to breastfeed. The most important is a soup made of boiled mushrooms called *obutiko obubaala*. All women said they gave this to their babies before commencing breastfeeding, the main reasons given being that it is a substitute for breast milk or that it purges the baby’s gastro-intestinal tract. This mushroom soup is regarded as being just as nutritious as breast milk. When the mushrooms are not available the mother might give the baby juice from certain crushed leaves (*ekiyondo*) or a herbal decoction (*kyogero*). This has a prophylactic function. Women also mentioned giving water, sugar water and diluted cow’s milk to their babies before commencing breastfeeding.

Supplementary food

Once breastfeeding has begun, various supplementary foods are gradually introduced. These include tea, cow’s milk, Irish potatoes, plantain, rice, beans, soya, groundnuts, maize and millet porridge, fish, cassava, green vegetables, fruit, avocado, eggs and biscuits. The solid foods are all ground to a paste or boiled to porridge consistency. Most of these foods seem to be available in the village. Various reasons were given for introducing supplementary foods: breast milk no longer considered sufficient for the growing infant, the child reaching for food that the mother is eating, thus showing it wants other food, and the notion that it is good to introduce the child to other foods gradually.

Participants were unanimous that the ideal

age for introducing supplementary foods was 3 months for liquids and 6 months for solids. These categories were somewhat relative as there was no consensus as to what exactly the distinction was between solids and liquids (e.g. is porridge a solid or a liquid?). Women said that by the age of 6 months the child is no longer satisfied only with breast milk and can also digest solid food properly. The actual age of babies when most participants introduced supplementary foods was 4–6 months, depending on whether they had enough breast milk. A few said that they start earlier if they have insufficient breast milk. Supplementary feeding is introduced gradually and does not lead to immediate weaning from the breast.

Weaning

Women said that, ideally, a child should be breastfed for 2–3 years. However, most agreed that 18 months to 2 years was a more realistic estimate of what happened in practice. A few women reported weaning after less than a year (owing to another pregnancy). One woman reported breastfeeding for 3 years. Various reasons for weaning were reported: the mother runs out of breast milk or falls sick, she gets divorced and has to leave the child with the father's relatives, she has to travel without the child (to care for a sick relative or attend a funeral) or go to work, she gets tired of breastfeeding, or the child refuses to suck.

The women in the discussions also said that if a mother becomes pregnant she has to stop breastfeeding because the baby inside now needs the milk. Pregnancy was also said to make the breast milk 'disappear'. There was a widespread belief that a child who is breastfed by a pregnant woman contracts an illness called *obwoosi* (kwashiorkor). There were different opinions on this, however, and some women said they breastfed well into the next pregnancy to get the full 2 years benefit for their child.

The women initially said that it is the mother who decides when to wean the child. However, when probed by the facilitator, many admitted that they must consult their

husbands who buy the weaning foods. Some said that the in-laws and husband demand that the child is weaned so that the woman can conceive again.

Reasons for not breastfeeding at all

The women were unanimous that breast milk is good for infants because it contains vitamins, protects them against disease and makes them healthy. A few women thought that it makes the child intelligent because it stimulates the brain to grow. Participants said that some women (though none of the participants themselves) choose not to breastfeed at all for fear of passing on an illness to the child, not wanting to get old prematurely, being an adolescent and having to go back to school, getting divorced and having to leave child behind with the husband's relatives, or having to go out to work.

Commercial milk formula foods

Most women thought that commercial milk formula was good, but not as good as breast milk. Some said they would like to use it but cannot because it is not available in the village or too expensive. A few women had used it, particularly when they no longer had breast milk or had to leave the baby behind. A small number of women claimed that commercial formula milk was bad for babies, causing diarrhoea, slow development and possibly death. Some women complained that some formula milk on sale had passed the expiry date.

HIV and breastfeeding

Most women were unaware that HIV could be passed to the child through breastfeeding. They were convinced that it could only be transmitted through sexual intercourse and blood. They could not see how transmission is possible unless there is blood in the milk or an open sore on the breast. They were aware, however, that the baby could be infected during delivery because of blood contact. A few women said that they thought HIV could be

transmitted through breastfeeding because they had heard in the antenatal clinic or on the radio that it was inadvisable to breastfeed if you are HIV-positive.

Exclusive breastfeeding for 3 months only

Most women said that they would be willing to breastfeed exclusively for 3–6 months if this would reduce the chances of their baby becoming infected. However, the women did have difficulty with the idea that they would have nothing to give their hungry newborn if the mushroom soup was no longer allowed and they still had no breast milk. A few women rejected the idea outright, claiming that it would be difficult to stop breastfeeding completely at 3 months because the baby would be too young.

Discussion

There is consensus in the literature that HIV can be transmitted to infants through breastfeeding. There is also some evidence that exclusive breastfeeding is less risky than mixed feeding.¹² Newell cautions that it is premature to base public health guidelines on a single study, and argues that further research is needed to confirm and elucidate these findings.²² As long as evidence suggests a *possible* benefit of exclusive breastfeeding, the topic needs to be the focus of research. This includes research on the sociological factors that need to be understood if a policy of exclusive breastfeeding is to be implemented, including the acceptability of exclusive breastfeeding and early weaning, whether this regimen is practicable, and whether it will interfere with the promotion of breastfeeding in the general population.²²

If women in this area were to be advised to breastfeed exclusively for 3–6 months then the almost universal practice of giving the newborn infant mushroom soup before breastfeeding might be a serious obstacle. It is likely that this deeply ingrained cultural practice will be difficult to eradicate. The belief that there is usually no breast milk during the 1st few days

after delivery or that the flow of milk is impeded will also need to be addressed.

The women in this study were ambivalent about colostrum. Half of them thought it was good for the baby or at least not harmful but there was also much discussion about it being bad and about having to squeeze it out before breastfeeding could commence. These divergent views seem to result from a combination of traditional and biomedical influences.

It is not clear from the literature whether HIV infection occurs through cell-free HIV in breast milk or through HIV-infected cells. If the latter, then colostrum might be more infectious owing to its high cellular content,² and interventions aimed at persuading women to withhold colostrum for the 1st 1 or 2 days would be a possibility.¹ Such interventions are less likely to succeed in societies where colostrum is highly valued. In the cultural context of the present study, this might be confusing, with a biomedical health intervention contradicting what health centres and maternity staff have been preaching for years and apparently supporting traditional beliefs.

The women in this study unanimously agreed that ideally breastfeeding should last for 2–3 years, but thought that in practice 18 months to 2 years was more realistic. There are, however, various culturally legitimate and socially acceptable reasons for weaning a child earlier. This is important because, in a context of universal breastfeeding in which weaning before, say, 18 months is frowned upon, weaning after 3 months for no apparent reason might be interpreted as evidence of positive HIV serostatus. Knowing that it is normal and culturally acceptable to wean because of ‘disappearance’ of breast milk, illness, travel, the child refusing to suck or the mother simply getting tired of breastfeeding means that this could be adopted as a policy without compromising confidentiality regarding women’s serostatus.

Moreover, women were, in principle, willing to wean after 3 months if they thought that this would reduce the chances of their infant becoming infected. However, because they have been taught that breast milk is nutritious

and should be continued for as long as possible, there was some concern about obtaining additional, nutritious foods if they weaned early. Advice to wean early would therefore need to be preceded by studies of the availability and affordability of nutritious alternatives and women would need to be advised about suitable foods and adequate diets.

It has been suggested that the risk of vertical transmission might be lower when exclusive breastfeeding is practised because the early introduction of solids or pathogens could damage the intestinal tract of the infant. There is evidence that in rural settings the best option would be to encourage seropositive mothers to breastfeed exclusively for 4–6 months^{10,12} but to avoid feeding if she has bleeding nipples.¹¹

Exclusive breastfeeding for 3 months was acceptable to most of the women in this study, as long as they had access to an adequate diet thereafter. In the discussions, most women gave the highest priority to their infants' well-being and seemed to be willing to make every effort to ensure it, particularly if advised to do so by medical experts. However, one serious impediment to implementing an exclusive breast milk policy was the belief, already discussed above, that most women do not have any breast milk or that its flow is impeded by *buti* during the 1st few days post partum. This would need to be addressed before any intervention aimed at exclusive breastfeeding could be launched.

Most women in the study thought that commercial milk formula food was good for infants but not better than breast milk. Many said they would like to try it if it was available and affordable. However, owing to poor hygiene and the cost of commercial formula milk, artificial feeding is not a possible option in this area.

Most women were unaware that HIV could be passed from mother to child through breastfeeding. Interventions focusing on sexual and blood-related transmission have convinced them that these are the only means of transmission. Vertical transmission during delivery through blood sounds plausible to them,

but they had difficulty accepting that breast milk was also a source of infection unless it contained blood or came from a breast with an abscess (which might, in fact, be correct). Interventions aimed at preventing vertical transmission and focusing on breastfeeding practices would need to devote a lot of effort to informing women of the precise mechanisms of vertical transmission. There is a real possibility that some women who learn of transmission through breastfeeding will turn to commercial milk formulae in an effort to avoid infecting their infant, even though they lack hygienic facilities, and that poor women might over-dilute the milk to make it go further.

In traditional African societies breastfeeding and infant care are entirely in the female domain. Men very rarely involve themselves in primary infant care activities. Most African societies are also highly patriarchal, and in rural areas tradition is often strong. Men might not take care of infants but, through patriarchal power and control of cash and resources, they have a powerful influence over child bearing and rearing. Elders and older women in particular are repositories of traditional knowledge and guardians of customs relating to such matters as breastfeeding and weaning. Sometimes this might not be immediately obvious. Our study area is no exception. Women initially insisted that it was the mother and only the mother who decided when the child was to be weaned. Later, after some probing, it became apparent that it was in fact usually the husband who decided, often in connivance with older female relatives. The husband's control over the family's income emerged as an important incentive for the women to obey. As a result, any intervention aimed at changing attitudes and practices relating to breastfeeding will have to take account of the central role of men and elders in determining what young women do, even regarding matters entirely in the female domain.

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