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Infant feeding practices among HIV-exposed infants less than 6 months of age in Bomet County, Kenya: an in-depth qualitative study of feeding choices

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ABSTRACT

Background In children, HIV can be acquired from the mother during pregnancy, delivery and through breast milk. The WHO recommends exclusive breast feeding or exclusive replacement feeding for the first 6 months after birth for HIV-exposed infants. Barriers such as HIV-related stigma, inadequate resources, lack of access to safe water and negative cultural beliefs have been shown to influence infant feeding among HIV-exposed infants in some settings. In Kenya, there is limited literature on the barriers. The purpose of this study was to identify barriers to optimal feeding among HIV-exposed infants 0–5 months of age attending a mission hospital in Bomet County, Kenya.

Methods A cross-sectional qualitative study was conducted at a referral mission hospital in Bomet County, Southwest Kenya. Four focused group discussions were conducted among mothers/caregivers of HIV-exposed infants aged 0–5 months in accordance with their infant feeding practices, while two key informant interviews were also held with healthcare workers. All sessions were audio recorded and later transcribed verbatim. Content analysis was performed, and conclusions were made based on identified themes.

Results Factors influencing the infant feeding choices were: financial constraints, cultural beliefs and practices, HIV-related stigma and conflicting knowledge among mothers/caregivers and healthcare workers on the recommendations for feeding HIV-exposed infants 0–5 months of age.

Conclusions Health worker retraining in and reinforcement of WHO guidance on feeding HIV exposed/infected infants will clarify misconceptions around feeding HIV exposed/infected infants, though there remain social and economic barriers to full implementation.

What is already known on this topic?

- WHO recommends exclusive breast feeding or exclusive replacement feeding for the first 6 months after birth for HIV-exposed infants.
- Previously identified barriers to WHO-recommended feeding practices include HIV-related stigma, inadequate resources, lack of access to safe water and negative cultural beliefs.
- Little is known about barriers to this in rural Kenya where many HIV-exposed infants live.

What this study adds?

- In rural Kenya, factors influencing the infant feeding choices were: financial constraints, cultural beliefs and practices, and HIV-related stigma.
- In addition, conflicting knowledge among mothers/caregivers and healthcare workers on the recommendations for feeding HIV-exposed infants under 6 months of age.
- In-service training on optimal feeding of HIV-exposed/-infected infants for health workers could substantially address these barriers along with full implementation support through government and community.

BACKGROUND

Globally, about 1.5 million HIV-infected mothers living delivered babies with 85% residing in sub-Saharan Africa in 2013.[1] In Kenya, about 79 000 HIV-infected mothers delivered, with an estimated 13 000 HIV-infected newborns.[2] Suboptimal feeding practices before 6 months of age contributes to some of these paediatric infections.[3]

The 2010 WHO recommended that country health authorities promote a single infant feeding practice for HIV-exposed infants (0–6 months of age) of HIV-infected mothers as one of the standards of care for the prevention of mother-to-child transmission of HIV (PMTCT).[4] This could be either exclusive breast feeding (EBF) or exclusive replacement feeding (ERF). When EBF is the choice, mothers and their infants need to be provided with antiretroviral prophylaxis during the period of EBF.

The Ministry of Health in Kenya has adopted the EBF option for the first 6 months, followed by the introduction of appropriate complementary foods at 6 months and continued breast feeding for the first 12 months after birth.[5] In circumstances where an HIV-infected mother is not able to breast feed her infant, ERF is recommended, but this ERF should be acceptable, feasible, affordable, sustainable and safe.[4] The current rate of EBF in Kenya of infants 0–5 months is 61% among the general population[6] but unknown among the HIV exposed. Misinterpretation and poor adherence to national guidelines for feeding HIV-exposed infants have been found to be a problem in Burkina Faso, Cambodia and Cameroon,[7] with a resultant decrease PMTCT.

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The literature on the factors influencing optimal infant feeding among HIV-exposed infants in Kenya is limited. Thus, the purpose of this study was to determine the barriers to optimal infant feeding practices for HIV-exposed infants aged 0–5 months among mothers or caregivers attending a mission hospital in rural Southwest Kenya.

METHODS

Study design, location and time frame

This study was one of the qualitative components of a larger study on feeding practices and nutrition status of HIV-exposed infants conducted from November 2014 to January 2015.[8] The study location was a referral mission hospital in Kenya and the surrounding community in Bomet County, a rural county located in the former Rift Valley Province of Kenya with a population of 730 129 in the 2009 census.[9] The main economic activities include farming for subsistence and cash, tourism and sports.[10]

Target population and sampling procedures

The target population was HIV-infected mothers and their HIV-exposed infants (aged 0–5 months) attending the mission hospital's HIV continuous care clinic.[8] In cases of maternal orphans, caregivers of such HIV-exposed infants were targeted.

Mothers/caregivers were randomly selected (using a lottery method) from the larger study pool to participate in the focus group discussions (FGDs) with 8–10 chosen per group; two groups for those identified as EBF and one group each for ERF and for mixed feeding. No incentive was given for participating in this study.

Eleven health workers from the mission's hospital participated in the key informant interviews, including three nutritionists, four nurses, two clinicians and two adherence counsellors (a person living with HIV whose responsibility is to educate their peers on compliance with medication and positive living behaviours). Key informant interviews were also held in the community with one community health nurse and one community health volunteer.

Logistical and ethical considerations

Informed voluntary consent was obtained from the mothers/caregivers and healthcare workers. MicroResearch was involved in mentoring and support with the analysis and writing up of the manuscript.

Research instruments

The pretested and validated FGD guide was used to collect information from the mothers/caregivers. Group discussions were conducted in the local language, Kipsigis. Two pretested and validated key informant interview guides were also used to collect information from health workers at the hospital and community.

Data collection procedures

The FGDs were facilitated and audio-recorded. These took place away from the communities to ensure privacy.

Key informant interviews with healthcare workers were conducted at the health facility, while community health workers interviews were conducted at a primary school. All interviews were audiotaped.

Data analyses

The FGDs and the key informant interviews were transcribed verbatim and translated into English. The qualitative data were analysed using standard theme extraction methods.[11] The adopted themes centred around barriers relating to financial resources, services/policy, family, social support and sociocultural factors. These information categories were used to organise each key informant interview according to the informant category: nutritionist, nurses, adherence counsellors, clinical officers, community health nurse and a community health volunteer. Illustrative quotations were also selected.[11]

Table 1 Demographic and socioeconomic characteristics of the participants in focus groups by feeding category

	Exclusive breast feeding		Formula feeding	Mixed feeding	Total
	n=10	n=9	n=8	n=8	n=35
Age in completed years					
16–20	1	0	0	2	3
21–29	8	9	7	5	29
30–36	1	0	1	1	3
Total	10	9	8	8	35
Marital status					
Never married	0	0	1	2	3
Married	9	9	7	6	31
Widowed	0	0	0	0	0
Divorced/separated	1	0	0	0	1
Total	10	9	8	8	35
Occupation					
Casual labour	4	0	0	3	7
Farmer	3	3	1	2	10
Salaried employment	0	2	3	0	5
Business	1	3	3	1	8
Housewife	2	1	1	2	5
Total	10	9	8	8	35
Monthly income (KSh.*)					
0–5000	4	2	0	5	11
5001–10 000	4	3	1	1	9
10 001–20 000	1	2	4	2	9
20 001–40 000	1	2	3	0	6
Total	10	9	8	8	35
Level of education					
No formal education	2	1	0	3	6
Primary incomplete	4	2	0	3	9
Primary complete	2	3	4	1	10
Secondary plus	2	3	4	1	10
Total	10	9	8	8	35

*100 Kenyan shillings=1 US dollar (US$) as at November 2014–January 2015.

RESULTS

The EBF mother FGDs involved two groups of 9 and 10 discussants. Eight discussants were involved for each of ERF and mixed feeding FGDs. The majority of the discussants were aged between 21 years and 29 years (82.8%), and 88.6% were married (table 1).

Among the key informants, 73% were females, 27% males with an age range of 21–36 years. Most of the hospital health workers had worked in the paediatric clinic for more than 3 years with an average length of hospital service of 7 years.

The following thematic barriers were recognised from the FGDs and the key informant interviews.

Resource constraints

Among exclusive breast feeders, some reported opting for this mode of feeding because they could not afford the infant formula and/or because of limited access to safe water necessary for its preparation. 'We do not have tapped water at our village and I cannot afford to buy purified water from shops. How will I afford the milk in tins?' Financial constraints forced mothers/caregivers to return to employment before the baby was 6 months of age to provide for their families, thus posing a barrier to practising EBF for the first 6 months.

Among mothers/caregivers opting for ERF, finance was a hindrance to sustaining use of infant formula. Some were considering mixed feeding. 'Every week I use more than 3000 Kenyan shillings (30 US $) to buy this milk'. 'I am really struggling to buy this because I do not have enough money, I might not be able to complete the 6 months as the nurse advised me'. A few well-to-do members among the discussants who had stable sources of income were able to afford ERF.

For the mothers/caregivers practising mixed feeding, some had previously been practising ERF, but changed to mixed feeding due to the high costs of infant formula. 'I used formula milk for the first 2 months but when it became too costly, I started alternating cow's milk with formula milk.' Some who had initially exclusively breast fed were unable to continue practising EBF when they reported back to employment at 3 months after delivery.

The key informants made similar observations. 'We have some clients who have very high viral load (HIV) to whom we suggest infant formula, but when you investigate their socio-economic backgrounds, you realize they cannot even afford it'. 'There is no alternative support offered for orphaned infants or those who need to be on replacement feeds. Some missionaries donate formula milk occasionally, but this is not consistent'. 'The barriers to replacement feeding among the orphaned infants are the unaffordability and the inaccessibility of the replacement feeding. Safe water is also not available. We have however, linked some women and caregivers of orphaned and vulnerable children to some community based organizations and approached other partners to support them in accessing formula milk, but it is not easy and at times not sustainable'.

HIV-related stigma

In the local community, ERF was associated with HIV, and this influenced the places where mothers using infant formula could feed their infants. 'I feed my child in the bedroom because I don't want my relatives to know that I am not breastfeeding the child.', and 'I am forced to carry my child wherever I go to ensure that the other siblings do not feed the baby anything else while I'm away'. A key informant noted that: 'We usually conduct teachings in the community. The attendance to these meetings by fathers and men is generally very low. We rarely teach them on replacement feeding unless someone asks, and in such cases we usually emphasise that it is meant for those infants whose mothers have died or are very sick'.

From the discussions in all the focus groups, it was evident that they were more comfortable discussing about infant feeding choices with the healthcare worker rather than with family members. 'The nurses are normally very approachable and it is easy to discuss with them because they are already aware of my HIV status. Discussing one's HIV status to some family members is like airing it on the radio for everyone to know and judge you'.

Similar opinions were expressed in the key informant interviews. 'There are some mothers who have not accepted their status and when they are asked to join PMTCT support groups, they refuse to be part of them. Others even request not to be counselled by the adherence counsellors.', and 'We have had mothers saying that EBF is only for mothers who are living with HIV and so they breastfeed exclusively but carry a bottle of milk with her wherever they go like other women do'. One of the community health workers reported being warned not to visit one household again as they are known as the doctors who visit people living with HIV. Non-disclosure of HIV in the community appears to be a barrier to enjoying community support.

Cultural beliefs and practices

Discussants raised cultural beliefs that promote the use of prelacteals and postlacteals. Most reported that they gave these to cleanse the infant's gut as a form of protection against abdominal discomfort and to also improve the infant's bowel movements. 'When we give birth, the first thing that we give our babies is "Kerichek ap kip kaa" (traditional herbs used by the Kalenjin community in Kenya) to help flush out dirt that has accumulated in the baby's stomach while in the womb'. The majority of the mothers/caregivers reported social pressure from the family members as the main reason for the administration of these herbal medications to the infants.

Conflicting knowledge on current guidelines and recommendations on infant and young child feeding among mothers/caregivers and healthcare workers

Among the mothers, the changing guidelines on infant feeding caused confusion. 'Today we are told to stop breastfeeding at 6 months, the next time you come, you are told to continue breastfeeding up to 1 year, now you wonder which one to follow'. Although mothers/caregivers were aware of the dangers of mixed feeding before 6 months of age, herbal medication and gripe water were not considered as mixed feeding by the majority of the discussants.

Healthcare workers, despite working in the same health facility, had varied information on the current guideline recommendations with some still using old guidelines. Feeding issues were perceived to be duties of the nutritionist and partly of the nurse. Clinicians, nurses and adherence counsellors referred pregnant HIV-infected mothers to the nutritionist for teaching on infant feeding options. All the nutritionists interviewed were conversant with the latest recommendations. Some healthcare workers mistakenly thought modified cow's milk could be used as a replacement when the mother cannot produce enough milk. The nurses and clinicians were aware that EBF should be practised for 6 months. One indicated that she was aware of EBF and ERF but thought that latter was only for infants of sick or deceased mothers. The community health workers reported they are aware of changes in the guidelines but unsure of what. 'There was a time when one of my colleagues went for an update but he did not disseminate it to us. What I teach them is EBF for 6 months and stop breastfeeding when the infant is 6 months of age'.

DISCUSSION

This study adds to the existing literature on barriers leading to suboptimal feeding among HIV-exposed infants in sub-Saharan Africa and specifically relevant information for rural Kenya.

Financial constraints had a major influence on feeding choice, similar to studies in Nigeria[12–14] and Ghana.[15] Resumption of employment further influenced some mothers' ability to exclusively breast feed regardless of HIV status, similar to other reports.[12 16]

Giving free infant formula to HIV-exposed infants occurs in many developed countries[3] but is not current policy in Kenya. Mixed feeding increases the risk if HIV transmission[17 18] and poses the same risks of contamination and diarrhoea as artificial feeding which, ultimately, can affect infant survival.

As has been shown in Nigeria,[12] stigma associated with HIV influenced infant feeding mode in this study too. Stigma can also affect medication adherence. Counselling individuals at all levels (community and health facilities) and educating communities can reduce self-stigmatisation and interpersonal stigmatisation.

As in other studies in Africa,[19–22] cultural beliefs and practices pushed by family members and the community interfered with EBF. Giving herbal medication was not considered as mixed feeding by caregivers and some healthcare workers thus affecting compliance with EBF.

In most African communities as in this one, breast feeding is the norm. Choosing not to breast feed, can be a barrier to exclusive feeding compliance as it goes against cultural norms. Similar cultural pressure has been reported in Kenya,[23] Nigeria[12] and South Africa.[24]

The healthcare system also presents barriers.[25] In this study, some healthcare workers lacked current knowledge on infant feeding recommendations as also noted in studies conducted in Malawi[26] and in USA.[16] Regular updating of healthcare workers' knowledge on infant feeding counselling in the context of HIV is needed.

The limitations of this study included: lack of direct observation of infant feeding practices and that the study was conducted in one rural area only. With respect to infant feeding, cross-verification of the infant feeding information was done from different sources (community health workers, community health volunteers and healthcare workers). With respect to study site, 74% of Kenyans live in a rural setting like Bomet County with education and demographics similar to those in the FGDs according to Kenya National Bureau of Statistics in 2010.[9] Hence, these findings are likely generalisable to other areas in Kenya and important for national policy making and practice.

CONCLUSIONS

All of the barriers reported by the mothers/caregivers of HIV-exposed infants and their healthcare workers are modifiable. The Ministry of Health and the Non-Governmental Organizations in Kenya should organise nutrition education for mothers/caregivers and communities on how to overcome these barriers, as well as training for other health workers on the current guidelines for HIV-exposed infants. Emphasis should be on training and retraining of the healthcare workers on the correct recommendations of the 2010 WHO, so that they can provide correct counselling for mothers on well-informed choices about infant feeding. In addition, they should develop a policy to support access to ERF for orphaned infants in whom replacement feeding is inevitable.

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Contributors PCL: initiation of the study, design, implementation and writing. IO: design, implementation, analysis and writing. AS: implementation and cowriting. NEM, SO, WB and GO: critique and writing.

Competing interests None declared.

Patient consent Obtained.

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