

## HIV SEROSTATUS AND INFANT FEEDING COUNSELING AND PRACTICE: FINDINGS FROM A BASELINE STUDY AMONG THE URBAN POOR IN KENYA

In 2003, an estimated 630,000 children worldwide became infected with HIV, the vast majority of them during their mother's pregnancy, labor, and delivery, or as a result of breastfeeding (UNAIDS 2004). In the absence of any intervention, a third to a half of mother-to-child transmission occurs through breastfeeding (WHO 2004).

Infant feeding guidelines on the prevention of mother-to-child HIV transmission (PMTCT) in Kenya recommend that HIV-infected mothers be counseled about the risks of breast milk transmission of HIV and be given three options for feeding: (a) exclusive breastfeeding for six months and abrupt cessation, (b) replacement feeding with commercial infant formula, and (c) replacement/home modified formula (cow, goat, or camel milk or soy protein) (NASCO 2002).

The objective of counseling on HIV and infant feeding is to assess the mother's personal circumstances in order to help her select the best feeding option for her and her baby (Koniz-Booher et al. 2004). Infant feeding counseling is crucial because normative practices in Kenya, such as mixed feeding, can be detrimental to an infant of an HIV-positive mother.

The Horizons Program, in collaboration with International Medical Corps (IMC) and Steadman Research Services International (SRSI), is conducting an operations research study testing several community-based strategies to reduce mother-to-child transmission of HIV in a densely settled urban slum in Nairobi, Kenya. The strategies being piloted by IMC include moving PMTCT services closer to the population via a mobile clinic, and increasing psychosocial support for HIV-positive women through the use of traditional birth attendants (TBAs) and peer counselors. Peer counselors are HIV-positive women who have already received PMTCT services. The effectiveness of each of these strategies on women's utilization of key PMTCT services will be measured by comparing baseline to follow-up data. This research update presents key findings about infant feeding counseling and practice of mothers in this community and the extent to which actual infant feeding practice is consistent with recommended practice. An important feature of this community-based study is the availability of data on infant feeding and reported HIV status.

### Methods

A total of 1,803 women with infants aged 10 weeks or younger took part in exit interviews at six high-volume primary health clinics in Kibera and Dagoretti, two urban low-income communities in Nairobi, Kenya. These structured interviews, which covered antenatal care (ANC), TBA use, and other PMTCT topics, were conducted in Kiswahili and were carried out from June to August 2004. After obtaining informed consent, research assistants from SRSI administered a structured questionnaire to eligible women after they had been served at the

clinic. Fourteen percent (284 of 2,087) of the women approached declined to be interviewed. In October and November 2004, researchers conducted in-depth interviews to further explore issues raised in the quantitative survey. The convenience sample included 24 HIV-positive women and 5 HIV-negative women with infants aged 10 weeks or younger. Interviews were conducted in Kiswahili, recorded, transcribed, and then translated into English.

## Sample Profile

Of the 1,803 women interviewed, 60 reported that they were HIV-positive and 1,175 stated that they were HIV-negative. A substantial number of women ( $n = 568$ ) did not indicate their status to the interviewer or said that they did not know their status. Those who did not know their HIV status either had not been tested for HIV or had not picked up their test results. For ease of reference, these women will be referred to as being of “unknown” HIV status.

Overall, the women in the sample were in their mid-20s and were just over a month postpartum. As Table 1 shows, HIV-positive women were slightly older and had more children than HIV-negative women and those of unknown status. Nearly three fourths of those who learned their status and chose to disclose it to the interviewer had completed at least eight years of schooling, whereas only about half of the women of unknown status had completed at least eight years of schooling. There were two areas of statistically significant differences between HIV-negative and HIV-positive women. A greater percentage of HIV-negative women were married or cohabiting compared to HIV-positive women ( $p < 0.05$ ). In addition, a greater percentage of HIV-positive women reported that they were widows ( $p < 0.05$ ), suggesting that the spouse may have already passed away because of AIDS-related illness. Moreover, HIV-positive women were more likely to have an income than HIV-negative women ( $p < 0.05$ ).

**Table 1 Sociodemographic characteristics by HIV status**

	Mean age	Married/ cohabiting %	Widowed %	Mean number of living children	Completed primary education (8+ years) %	Woman has some income %
HIV+ (n = 60)	26.3	72*	8.3*	2.6	73	52*
HIV- (n = 1,175)	24.4	86*	0.8*	2.1	72	33*
Unknown (n = 568)	23.8	77	1.9	2.2	54	31

\*Statistically significant in 2-way comparison between HIV-positive and HIV-negative women.

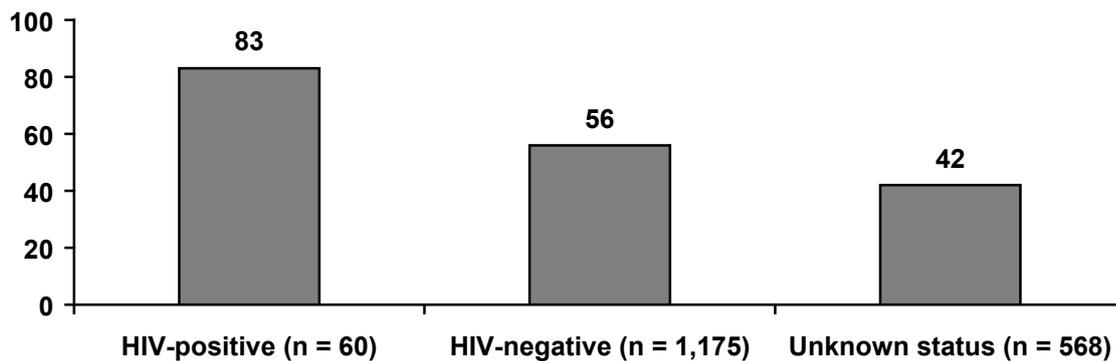
Among the 24 HIV-positive women who participated in the in-depth interviews, 14 were married or cohabiting with a partner; one was single, three were separated from their partners, and six were widows. These HIV-positive women were slightly older than women in the quantitative survey, averaging 28.1 years of age with a median of 26 years. They also had more living children, with a mean of 3.3 and a median of 3.

## Key Findings

### Many women do not receive infant feeding counseling.

Almost half (48 percent) of all survey respondents did not receive infant feeding counseling on the day of the interview or at an earlier clinic visit. HIV-positive women were more likely to have received infant feeding counseling (Figure 1) than HIV-negative women (83 percent vs. 56 percent;  $p < .001$ ) or those of unknown status (83 percent vs. 42 percent;  $p < .001$ ). These findings suggest that health facilities, which are frequently understaffed, target HIV-positive women for infant feeding counseling.

**Figure 1 Percentage of women who received infant feeding counseling by self-reported maternal HIV status**



### Most women appreciate infant feeding counseling given at the health facilities.

During in-depth interviews, investigators asked women how they felt about the infant feeding information they had received from the health providers. A majority of the women (17 of 21) said that they were satisfied with the infant feeding counseling they had received. They attributed their satisfaction to the “new” PMTCT information received in addition to the emotional and physical support given at the health facility:

*The information really helped me because I did not know that there was [another] way to feed the baby.*  
38-year-old HIV-positive woman with 6-week-old baby

*I was happy and I liked it [infant feeding counseling received]... because we had talked about breastfeeding and I refused to breastfeed, so I had to get support of milk [formula] from here and after I gave birth I started receiving the milk and I was told how to give to the baby.*  
29-year-old HIV-positive woman with 4-week-old baby

Nevertheless, some women were disappointed with the feeding option of milk formula as it was not easily accessible and it was stigmatizing. The following two women reflect these sentiments:

*I had deep thoughts because I was not able to stay [continue] without breastfeeding... I realized that it was hard for me to get the baby's milk.*  
25-year-old HIV-positive woman with 4-week-old baby

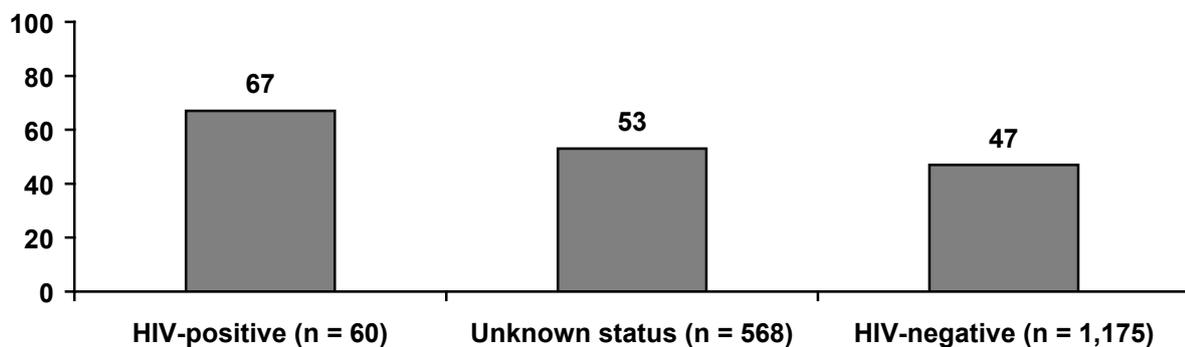
*It was good [infant feeding counseling] but when people don't see you breastfeeding the baby they start wondering...*  
29-year-old HIV-positive woman with 9-week-old baby

## **A higher proportion of HIV-infected women were practicing exclusive breastfeeding compared to HIV-negative women and women of unknown HIV status.**

Ninety-eight percent of the respondents were breastfeeding at the time of their interviews. These rates are comparable to the breastfeeding prevalence for Nairobi province; 99 percent of children aged 9 months or younger had ever been breastfed (CBS, MOH, and ORC Macro 2004).

Fifty percent of the study participants were practicing exclusive breastfeeding. As Figure 2 illustrates, results from the 24-hour recall of infant feeding showed that a significantly higher proportion of HIV-positive women were practicing exclusive breastfeeding when compared to the proportion of women of unknown status (67 percent vs. 53 percent;  $p < .05$ ) or women who were HIV-negative (67 percent vs. 47 percent;  $p < .05$ ).

**Figure 2 Percentage of women practicing exclusive breastfeeding by self-reported maternal HIV status**

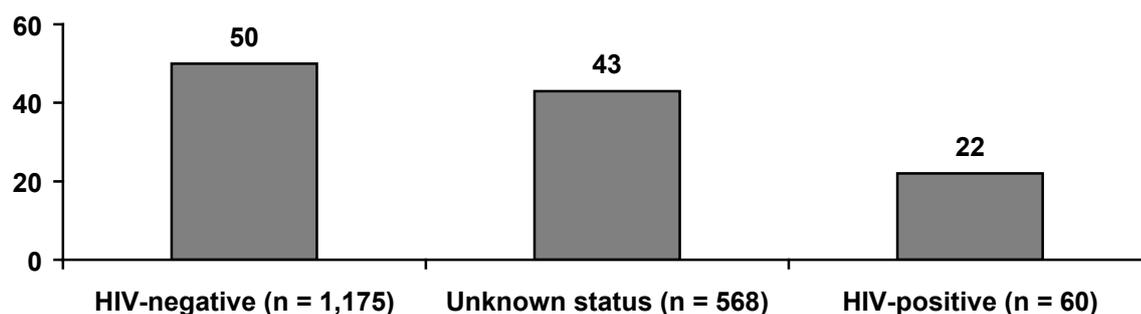


## **Mixed feeding practice is high, but lowest among mothers who are HIV-positive.**

Infant feeding practice based on the 24-hour recall data showed that nearly half of all mothers were practicing mixed feeding (feeding both breast milk and other foods or liquids). Mixed feeding is discouraged among both HIV-negative and HIV-positive women because it is associated with malnutrition and higher rates of child morbidity. Current UN recommendations state that HIV-positive mothers should either breastfeed exclusively or replacement feed exclusively, but not mix the two because mixed feeding is associated with increased risk of MTCT (UNAIDS 2004).

As Figure 3 shows, mixed feeding was practiced most among HIV-negative women (50 percent) and least reported among women who were HIV-positive. Of the 60 respondents who reported that they were HIV-positive, 40 (67 percent) were practicing exclusive breastfeeding, 6 (10 percent) used replacement feeding (e.g., cow's milk), and 13 (22 percent) were mix-feeding their infants (breastfeeding and giving complementary foods such as glucose water, porridge, or fruits/vegetables).

**Figure 3 Percentage of women practicing mixed feeding by self-reported maternal HIV status**



Glucose water is the most common complementary food given to babies; infant formula is rarely given. Overall, the most common complementary foods given to babies in the last 24 hours were sugar/glucose water (28 percent), plain water (25 percent), milk (8 percent), and porridge (7 percent) (Table 2). The same trend is seen when the data are disaggregated by self-reported maternal HIV status. Infant formula is rarely given by all groups of women.

**Table 2 Percentage of mothers who gave specific complementary feeds in previous 24 hours to infants ≤ 10 weeks old by self-reported maternal HIV status**

	HIV + (n = 60) %	HIV- (n = 1,175) %	Unknown status (n = 568) %	Total (n = 1,803) %
Sugar/glucose water	18	30	26	28
Plain water	20	27	22	25
Milk	5	8	8	8
Porridge	5	6	9	7
Fruits/vegetables	2	5	4	4
Infant formula	0	1	0	1

Note: Multiple responses possible.

## Conclusion and Recommendations

Infant feeding practices among most HIV-positive women reflect adherence to the national Kenyan infant feeding guidelines. Unfortunately, HIV-negative women and women of unknown status do not adhere to the guidelines as closely as HIV-positive women do.

The findings suggest the need for PMTCT programs in this context to:

- Provide ongoing refresher courses to ensure that health providers and community resource persons (TBAs and peer counselors) provide adequate infant feeding counseling and give correct and consistent PMTCT messages.

- Equip community resource persons to provide psychosocial support to HIV-infected women who opt to adhere to PMTCT recommendations and thus may be stigmatized by the community for discontinuing breastfeeding after six months or using replacement feeds.
- Develop communication and counseling strategies to encourage more women to learn their HIV status.
- Provide and update PMTCT behavior change communication materials in health facilities and develop infant feeding materials for women to take home.

Results from this study have been used to enhance the ongoing community-based PMTCT intervention, specifically the development of a manual for training community resource persons on PMTCT. This manual addresses PMTCT knowledge gaps among women and highlights the need to discourage mixed feeding in the community. IMC has also intensified health education by focusing on the importance of infant feeding counseling and good feeding practices for both HIV-positive and HIV-negative mothers at health facilities and support groups. 

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