

## An investigation of the factors influencing the choice of infant feeding methods among urban Zimbabwean women in the context of HIV transmission

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### Abstract

**Objective:** To determine the socio-economic and cultural factors influencing the choice of infant feeding methods in urban Zimbabwe women in the context of HIV transmission.

**Study Design:** A prospective survey.

**Setting:** Clinics in Harare and Chitungwiza, Zimbabwe.

**Subjects:** A total of 200 women attending eight baby clinics, with babies aged up to two years.

**Main Outcome Measures:** Infant feeding methods used by mothers, number of women who had undergone HIV testing, those who knew the link between HIV and breast feeding, and those who were afraid to breast feed. The most common reasons for breast feeding and formula feeding.

**Results:** Husbands had a greater influence on feeding practices than nurses, implying that social influences have a higher influence than the advice of medical personnel when choosing a method of feeding (58% and 42% respectively). Thirty three percent and 77% of women in Harare and Chitungwiza respectively knew the link between HIV and breast milk. Thirteen percent and 36% of the women were afraid to breast feed in Harare and Chitungwiza respectively.

**Conclusion:** The level of education and employment status as well as the opinions of family members and health care personnel are the major factors that influence the choice of method of infant feeding. The multiplicity of factors complicate the decision making process, considering the benefits of breast feeding, which have to be weighed against the risk of transmitting HIV to the infant.

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### Introduction

In addition to the important role played by the mother's nutrition during the gestation period in ensuring the health of the infant at birth, the infant's nutrition during the first

year is also very critical. Breast feeding is generally considered the best way to feed an infant and provides an infant's complete nutritional needs up to the age of at least four months and usually six months.<sup>1-4</sup> It contributes to reduced mortality by providing optimum nutrition and, by

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protecting against common childhood infections, as infants who are breast fed have fewer illnesses than those fed with breast milk substitutes.<sup>4</sup> Exclusive breast feeding on demand, including at night, delays the return of fertility and plays an important role in birth spacing, especially where the women lack access to other forms of contraception.<sup>5</sup> More importantly breast feeding is the most economical method of infant feeding.

In addition to breast feeding mothers can also opt for replacement feeding of their infants. This is made from suitable modified cow or goat milk, with added micro-nutrient supplements. Each of these choices is determined by complex social, economic, environmental and cultural variables as well as nutritional considerations. Currently HIV/AIDS has become a major consideration, making informed infant feeding decisions complicated and challenging.

Breast milk from an HIV positive mother has been proven to have the HIV virus.<sup>6-8</sup> There is evidence that breast fed infants of HIV positive mothers have a 15% higher risk of having the virus transmitted to them.<sup>9</sup> Approximately one third to one half of overall mother to child transmission of HIV-1 occurs during the period of lactation and the overall rate of vertical transmission is approximately doubled in populations where breast feeding is the norm, when compared to areas where breast feeding is uncommon.<sup>9</sup> Other studies have found that the number of infections which could be attributed to breast feeding is only 5.4%,<sup>10,11</sup> while Simonon and others<sup>11</sup> in Kigali, Rwanda, estimated the rate of transmission in the late post natal period to be even lower at 4.9%.

At the time of the study a national prevention of mother to child to transmission (PMTCT) campaign was ongoing countrywide in Zimbabwe. Some local authorities including Chitungwiza, through collaborations with various non-governmental organisations (NGOs) were more aggressive in the dissemination of information on HIV than others. The knowledge of the relationship between HIV transmission and breast feeding which were brought about by the campaigns, could increase the risk of HIV-negative women and those of unknown status being afraid to breast feed compared to areas with lesser interventions (i.e. greater Harare).

It was against this background that this study was undertaken to investigate the extent to which different factors influence the choice of infant feeding methods and to determine the effect that information on HIV had on breast feeding practices.

## Materials and Methods

A prospective study was conducted at four clinics in Chitungwiza and four clinics in Harare. Mothers who attended the Chitungwiza clinics were regarded as having received more education on HIV than their Harare counterparts. The study population consisted of women with children aged zero up to two years. Twenty five

consecutive mothers attending each of the baby clinics on the chosen days were selected. Verbal consent was obtained from each participant before the interview and those who refused to participate were not included and were not prejudiced in any way. Data were collected from January 2003 to February 2003 with permission from the health departments of the two towns. No sample size calculation was performed prior to the study.

A three page questionnaire was used to collect data. The questionnaire was mainly self-administered after a brief explanation by the interviewer and in some cases, the questionnaire was interviewer-administered as needed. Most of the questions on the questionnaire were closed ended.

The data was captured and analysed using Epi Info version 6.02 statistical package and a spreadsheet (Excel version 7.0, Microsoft, Redmond, WA). Descriptive statistics were calculated and reported for the survey items. To compare proportions the Chi-square test was used where data were normally distributed. A p value of < 0.05 was considered significant.

## Results

A total of 150 questionnaires were completed by the participants with no assistance and 50 were interviewer-administered. The majority of mothers interviewed in this study were aged between 21 and 35 (77%) years, with 17% of the mothers being aged below 20 years and 6% were above 35 years. The modal age group was 20 to 25 years with 36% of the mothers being in this age group.

Most of the mothers (48%) chose their feeding method after delivery and 32% and 20% chose the feeding method during pregnancy and before pregnancy respectively. When mothers were asked who influenced them in the choice of feeding methods, only 21% indicated that they did so on their own. Husbands were cited by 32% of the mothers as influencing the choice of feeding method. Thirty one percent (31%) of the mothers were influenced in their choices by nurses, 11% by doctors, and 5% by friends while none mentioned pharmacists.

The method of feeding varied greatly by employment status among the respondents. The paid employees largely resorted to mixed feeding rather than exclusive breast feeding. Forty two percent of the paid employees indicated that they practiced mixed feeding and only 3.4% practised exclusive breast feeding. Exclusive breast feeding was found to be more popular than mixed feeding in the unemployed (78%) compared to the employed (35%) ( $p < 0.05$ ).

Sixty-two percent of the women from Chitungwiza had undergone HIV testing at the time of the study as compared to 18% from Harare. Seventy seven percent of the respondents from Chitungwiza said they knew the link between HIV and breast milk. Only 33% of respondents from Harare admitted knowing the link between HIV and breast milk.

Thirteen percent and 36% of the respondents who said they knew the link between HIV and breast milk from Harare and Chitungwiza respectively, admitted to being concerned with the safety of breast feeding.

When the respondents were asked to select the major reasons why they breast fed or formula fed their infants, the most popular reason given for breast feeding was that it was nutritious (63%, Table I). Fifty seven percent of the respondents said they breast feed because it was natural and 29% said that health worker(s) had encouraged them.

*Table I: Responses on reasons for breast feeding and formula feeding.*

| Reasons  | Responses (%) |
|--|---------------|
| <b>Breast feeding</b>                            |               |
| It is nutritious                                 | 63            |
| It is just natural                               | 57            |
| Encouraged by health worker                      | 28.5          |
| There is no risk of contamination                | 25.1          |
| I cannot afford any other methods                | 18.1          |
| For contraception                                | 12.1          |
| I do not know of any other methods               | 8.2           |
| I am afraid of being stigmatised by society      | 6.1           |
| <b>Formula feeding</b>                           |               |
| Can afford breast milk substitutes               | 22.6          |
| Illness  | 20.5          |
| Failure to produce enough milk                   | 18.3          |
| Lack of time to breast feed                      | 18.2          |
| "I go to work"                                   | 16.2          |
| Formula feeding is comfortable                   | 13.1          |
| It gives freedom to participate in social events | 10.5          |
| To quickly restore my figure                     | 2.1           |

The most common reason why women used formula in both Harare and Chitungwiza was that they could afford to buy it (22.6%), followed by the fact that the mother had an illness (20.5%). The social factors such as: to improve the physical appearance of the mother (2.1%) and to have freedom to participate in social events (9%) seemed not to play an important role in determining the decision for formula feeding.

The women were also asked to identify the main advantages of breast-feeding. Many cited the fact that it is nutritious, it is cheap and creates a strong bond between the mother and child.

## Discussion

Generally women preferred to breast feed as compared to formula feeding. This could be explained by the common belief and understanding among the women that breast feeding is nutritious, cheap and that it created a strong bond between the mother and child.

Avoiding breast feeding for HIV positive mothers has been the Health Ministry recommendation in Zimbabwe for women who can afford it. The national HIV and infant feeding guidelines in Zimbabwe place exclusive breast feeding as the first choice. The number of women who

knew the link between HIV transmission and breast milk, but who had not undergone the HIV test have the potential to increase the risk of HIV negative women and those of unknown status reducing their breast feeding. The Prevention of Mother to Child Transmission (PMTCT) programme currently running in the country is likely to increase the awareness of the link between HIV transmission and breast feeding and may re-enforce the impression that breast feeding is likely to pass infections from mother to baby.

Less respondents in Harare (33%) knew the link between breast milk and HIV compared to those in Chitungwiza (77%). The high number of women who were tested for HIV and who knew the link between HIV transmission and breast milk in Chitungwiza can be explained by the successful implementation of the PMTCT programme prior and during the study. The programme created a high awareness among Chitungwiza women on HIV/AIDS. The lower level of awareness among Harare women is a cause for concern. This could be attributed to the limited education and awareness campaigns on the subject in Harare and other parts of the country where there was no PMTCT programme at the time of the study. Now that the PMTCT programme has become more widespread in Harare it would be of interest to see if this awareness has improved.

Knowledge of the link between HIV and breast milk seemed to have an influence on breast feeding practices as 36.2% of the women in Chitungwiza were reluctant to breast feed and only 12.8% in Harare were. The association between this knowledge and the actual selection of feeding methods seemed to be weak as a result of economic factors that made it difficult for willing mothers to obtain breast milk substitutes. The small number of those who were reluctant to breast feed in Chitungwiza may be explained by the fact that many knew their HIV status and had nothing to fear.

The majority of women who practised exclusive breast feeding were unemployed (76.3%). Forty two percent of employed mothers used mixed feeding. This could be due to the fact that most employed women do not have enough time to breast feed and also can afford breast milk substitutes. The babies receiving mixed feeding have been found to have the highest rates of HIV transmission.<sup>12</sup>

The study established that the group with the most influence on breast feeding was the husbands (32%) closely followed by nurses. This agrees with findings elsewhere that the attitudes of the male partner and the pregnant woman's perception of her partner's attitudes toward breast feeding also influence the woman's decision either to breast feed or not.<sup>13</sup>

The level of education and employment status was seen to have a significant influence on the method of infant feeding one chooses. The perceptions and influence of husbands, friends and relatives were seen to have a higher influence than the influence of health care workers (doctors and nurses). Given the role being played by husbands in feeding practices, they also need to be harnessed in

promoting breast feeding practices. Husbands need to be encouraged to accompany their wives to antenatal classes.

The use of anti-retroviral drugs should be vigorously encouraged in Zimbabwe. Anti-retroviral therapy to the mother and/or infant offers the possibility of maintaining breast feeding as a safe option for HIV-infected women.<sup>12,14</sup>

In view of the high number of potential subjects, a larger study population should have been used, and a random selection of study subjects would have strengthened the study considerably.

### Conclusion

The combination of the mother's personal perception and the influence of husbands, friends and relatives were found to be greater than that of health care workers (doctors and nurses). The level of education and employment status also had a significant influence on the method of infant feeding. The influence of the mother's knowledge of her HIV status on feeding practices and methods was less significant. The selection of infant feeding methods is a complicated process that takes into account social influences, advice from health care workers, the level of education, as well as knowledge of the mother's HIV status.

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