

Exclusive Breastfeeding in the Era of AIDS

Marina de Paoli, MSc, Rachel Manongi, MD, Msc,
Elisabet Helsing, PhD, Knut-Inge Klepp, PhD, MPH

Abstract

The aim of this study was to describe breastfeeding practices, as well as what pregnant women know about breastfeeding and mother-to-child transmission (MTCT) of HIV, and explore factors associated with exclusive breastfeeding, especially the presence of HIV/AIDS. A cross-sectional interview survey of 500 pregnant women was conducted in the Kilimanjaro region, supplemented by focus group discussions with pregnant women. Among the 309 mothers having previously breastfed, 85% had initiated breastfeeding within the first few hours postpartum, and 18% of newborns received some prelacteal food. Mean duration of breastfeeding was 23.7 months, but 46% of mothers had introduced other fluids early. Knowledge of HIV-transmission through breastfeeding was not associated with breastfeeding practices. Married women (odds ratio [OR] = .09, 95% confidence interval [CI] = .04-.24) and those having knowledge of exclusive breastfeeding (OR = .08, 95% CI = .02-.31) were the least likely to end exclusive breastfeeding early. Exclusive breastfeeding is a rare practice, and MTCT of HIV may further complicate recommendations with regard to this practice. *J Hum Lact.* 17(4):000-000.

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In Tanzania, breastfeeding is widely practiced and high rates of breastfeeding initiation have been observed.¹⁻³ According to the Tanzania Demographic Health Survey (TDHS) conducted in 1996, the median duration of breastfeeding was 21.6 months nationally and 22.6 months in the Kilimanjaro region.⁴ However, these breastfeeding figures mask a suboptimal breastfeeding

pattern. The 1996 TDHS reported that the median duration of exclusive breastfeeding was only about 1 month, as many young infants receive water in addition to breast milk. This is consistent with other studies undertaken in Tanzania and in other resource-poor settings, where the extent and duration of exclusive breastfeeding remains low even though breastfeeding initiation is high and partial breastfeeding is of long duration.^{1,2,5}

In 1998, the World Health Organization (WHO), the Joint United Nations Program on HIV/AIDS (UNAIDS), and the United Nations International Children's Emergency Fund (UNICEF)^{6,7} issued a set of revised guidelines on HIV and infant feeding for HIV-infected women in resource-poor settings. These guidelines called for a strengthening of initiatives to protect, promote, and support breastfeeding among mothers who are HIV-negative or of unknown HIV status and to promote fully informed and free choice of infant-feeding methods for HIV-infected mothers. Specifically, the guidelines recommended that counsel given to HIV-infected mothers should include the best available information on the benefits of breastfeeding, on the risk of HIV-transmission through breastfeeding, and on the risks and possible advantages of alternative methods of

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Marina de Paoli is a PhD candidate, Institute for Nutrition Research, University of Oslo. **Rachel Manongi** is the administrator of the MPH program, Community Health Department, Kilimanjaro Christian Medical College. **Elisabet Helsing** is a senior adviser, Norwegian Board of Health, and part time lecturer, Institute of Nutrition Research, University of Oslo. **Knut-Inge Klepp** is a professor, Institute for Nutrition Research, University of Oslo. Address correspondence to Marina de Paoli, Institute for Nutrition Research, PO Box 1046, 0316 Oslo, Norway.

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infant feeding. Several infant-feeding options for HIV-infected mothers are described. For HIV-infected mothers who choose to breastfeed, breastfeeding is recommended for the first few months of life but is also recommended to be discontinued as soon as an alternative form of feeding becomes feasible.⁸

A recent study exploring the influence of infant-feeding patterns (mixed, exclusive, or no breastfeeding) on infants born to HIV-infected mothers reported that infants who are exclusively breastfed for 3 months or more have no greater risk of HIV infection over a 6-month period than those who are never breastfed.⁹ If confirmed, these findings will have important implications for HIV and infant-feeding policies in resource-poor settings, thus making it critical that further research be undertaken. Thus, we need to know more about factors that discourage and encourage exclusive breastfeeding,¹⁰ and in particular we need information about exclusive breastfeeding as a potential option for HIV-infected mothers and about women's evaluation of the risks involved.

A better understanding of such factors will make it easier to assess the feasibility of exclusive breastfeeding and to identify effective interventions. This is crucial in a country such as Tanzania, where breast milk provides up to 40% of a child's total energy intake in the second year of life.¹¹ For one to follow the revised WHO/UNAIDS/UNICEF guidelines on breastfeeding and HIV in resource-poor settings, one must have a thorough understanding of how to improve breastfeeding practices and how to counteract the risk of a decline in breastfeeding rates. We have not been able to identify any study from Tanzania investigating cognitive as well as demographic factors predicting exclusive breastfeeding.

The aim of this study is to describe breastfeeding practices, as well as what pregnant women know about breastfeeding and mother-to-child transmission (MTCT) of HIV. An additional objective is to explore the ways in which knowledge and sociodemographic factors are associated with current breastfeeding practices, with particular emphasis on exclusive breastfeeding in the face of HIV/AIDS.

Participants and Method

This study, conducted between June and September of 1999 at nine governmental postnatal clinics, was part of a survey undertaken in the urban and rural districts of Moshi, which is located at the foot of Mt Kilimanjaro in

northern Tanzania. All four urban postnatal clinics in the town of Moshi and five large clinics in Moshi's rural district participated in the study.

A total of 503 women were approached and asked to participate in an interview during their postnatal visits. Of these, 500 participated (99.4%). All respondents were pregnant but currently not breastfeeding, since according to local tradition a pregnant woman should not breastfeed. Primigravidas ($n = 167$) and women who spontaneously aborted or whose last-born child died before initiating breastfeeding ($n = 24$) were excluded from the analysis of breastfeeding histories. Thus, breastfeeding histories were obtained for 309 mothers and children.

Participants were recruited in close collaboration with the health care staff at the participants' postnatal clinics. Due to the logistics of the study and practical circumstances at the clinics, it was not possible to randomly select women. The staff had been thoroughly informed about the purpose of the study and instructed to select a wide range of mothers (i.e., different ages, ethnicities, socioeconomic groups, number of pregnancies). The interviews were carried out at the clinics in private rooms. Five trained nurses from the regional referral hospital (Kilimanjaro Christian Medical College (KCMC)) conducted the questionnaire interview, which lasted 1 to 1.5 hours. Because breastfeeding and AIDS are sensitive issues, each woman was given ample time to ask questions after the interview session was over. They were also offered a counseling session on breastfeeding and HIV issues.

The study consisted of a structured, cross-sectional interview survey. A pretested, structured questionnaire administered in Kiswahili (the national language) was used to obtain the quantitative data. The questionnaire consisted of four parts: (1) demographic factors (age, level of education, marital status, area of residence and clinic attendance, employment status, and number of pregnancies), (2) previous infant-feeding and breastfeeding history and knowledge about breastfeeding issues, (3) HIV/MTCT-related questions surveying general knowledge and perceptions about breastfeeding and the perceived risk of HIV and MTCT, and (4) perceptions with regard to the WHO/UNAIDS/UNICEF revised guidelines. Information on the actual HIV status of mothers was not requested. This article only presents data from parts 1 to 3 of the questionnaire.

We were aware of existing indicators for assessing current breastfeeding practices,¹² but because our

results are based on retrospective data, we decided to develop our own indicators. The age of the child at termination of breastfeeding was obtained by asking "For how long did you breastfeed your last born child?" Children who were said to have received only breast milk for the first few months postpartum were defined as "exclusive breastfeeding." Those for whom additional fluids and/or food were introduced during the first few days after birth were given the classification "early termination of exclusive breastfeeding" and were defined as having been "partially breastfed." Women were classified as having knowledge of exclusive breastfeeding if they responded negatively to the question "Do breastfed infants need water in addition to breast milk during the first 4 months?" Intention to breastfeed was measured in months. Because this unit of measure is not commonly used in this community, we also included an optional question with seven other markers for breastfeeding intention: "when I return to work," "until I get pregnant," and so on. Because a majority of the women (78%) actually replied in terms of months, this is what we have presented. Women were classified as having knowledge of MTCT transmission if they correctly answered four questions about ways in which HIV can be transmitted from mother to child, that is, during pregnancy (yes), during labor (yes), through breastfeeding (yes), and through breathing (no). Consequently, "low knowledge" includes those having 0 to 3 correct answers.

To supplement this quantitative approach, focus group discussions were conducted with pregnant women attending the selected clinics. All of these women were recruited while they were attending a postnatal clinic, and about half of them had also participated in the interview survey. Six focus group discussions were carried out with a total of 46 pregnant women. An additional focus group discussion was carried out with 10 women who were active members of the Kilimanjaro Women's Group against AIDS, an active nongovernmental organization working in the region.¹³ Information from these discussions was used to validate the quantitative data obtained from the structured interviews.

Research and ethical clearance was obtained from the National AIDS Control Program, the Ministry of Health, the Commission for Science and Technology, the Tanzania Food and Nutrition Center, the KCMC Ethical Committee, and the Norwegian Committee for Medical Research Ethics. Participation was based on

oral informed consent. Each participant was given a code number to ensure anonymity and confidentiality.

Analysis of variance was used to examine differences between groups in terms of actual breastfeeding duration and intended duration of breastfeeding. Logistic regression analyses were used to examine the effect of demographic factors on discrepancies between knowledge and practice of exclusive breastfeeding and on knowledge of MTCT of HIV. The following variables were separately examined in bivariate models: age of the mother, education, marital status, location of clinic, employment status, number of pregnancies, knowledge of exclusive breastfeeding, and knowledge of routes of MTCT of HIV. In the multivariate logistic analysis, only those variables that were significant in the bivariate analysis were included. All analyses were run using the SPSS-PC 10.0 statistical software package.

Results

Table 1 presents demographic characteristics of the sample. The mean age of the total sample was 25 years (range, 16-44 years), and one third were primigravidas ($n = 167$).

Infant-Feeding Practices

Among the multigravidas ($n = 309$), the mean duration of their previous breastfeeding was 23.7 ± 8.9 months. The long duration of partial breastfeeding and the introduction of prelacteal fluids did not vary with sociodemographic factors. Eighty-two percent of the newborns were given breast milk as their first food, whereas 18% were given prelacteal fluids (usually plain water or sugar water). Ninety-one percent reported using colostrum, and 85% said they had initiated breastfeeding within the first few hours after birth. Fifty-four percent of the mothers recalled practicing exclusive breastfeeding for the first few days, whereas the remaining (46%) had at this early stage introduced water, sugar water, and/or cow's milk. The practice of introducing fluids was discussed during focus group discussions. The main reason given for the practice was that "the child is thirsty," reflecting the strong belief that breast milk will not quench thirst. Another constraint to exclusive breastfeeding was the practice of resuming work after 3 months of maternity leave. The mean age at which solid food was introduced was 3.4 ± 1.2 months, and by the age of 8 months, all children had been given some kind of complementary food.

Table 1. Selected Characteristics of the Sample

	Total Sample (N = 500)		Multigravidas (n = 333)	
	No.	%	No.	%
Age, y				
16-20	124	(24.8)	24	(7.2)
21-25	155	(31.0)	104	(31.2)
26-30	140	(28.0)	126	(37.8)
31-44	81	(16.2)	79	(23.7)
Residence				
Rural	323	(64.6)	211	(63.4)
Urban	177	(35.4)	122	(36.6)
Clinic attendance				
Rural	249	(49.8)	176	(52.9)
Urban	251	(50.2)	157	(47.1)
Marital status				
Married, cohabiting	428	(85.6)	305	(91.6)
Not married	72	(14.4)	28	(8.4)
Employment				
Farmer	208	(41.6)	147	(44.1)
Housewife/student/unemployed	131	(26.2)	72	(21.6)
Petty trader/day employee/ other work	122	(24.4)	84	(25.2)
Permanent employment	39	(7.8)	30	(9.0)
Education				
Primary (standard 1-4)	51	(10.2)	41	(12.3)
Primary (standard 5-7)	366	(73.2)	249	(74.8)
Secondary or higher	83	(16.6)	43	(12.9)
Religion				
Christian	379	(75.8)	248	(74.5)
Non-Christian	21	(4.2)	85	(25.5)
No. of pregnancies				
1	167	(33.6)		
2	122	(24.2)	122	(36.6)
3	84	(16.8)	84	(25.2)
4+	127	(25.4)	127	(38.1)

Intention to Breastfeed

The intended duration of breastfeeding for the expected child was 32.3 ± 9.8 months for the total sample. We found that this intention varied significantly with sociodemographic factors: A shorter intended duration of breastfeeding was associated with younger age groups, lowest parity, unmarried status, not being a farmer, urban residence, and attendance at an urban clinic (Table 2).

Knowledge of MTCT of HIV

The majority of the respondents regarded AIDS as a threat to the community, but only 7% had been HIV tested themselves. Ninety percent of the total sample knew that the virus could be transmitted either during pregnancy or through breastfeeding, and two thirds

Table 2. Intention to Breastfeed Next Child (in Months) by Sociodemographic Factors

Sociodemographic Factor	No.	Average Months (95% Confidence Interval)
Age, y		
16-20	124	30.9 (29.0-32.8)
21-25	155	32.1 (30.4-33.8)
26-30	140	31.5 (29.8-33.2)
31-44	81	36.1 (33.5-38.7)
Residence		
Rural	323	33.6 (32.4-34.9)
Urban	177	29.8 (28.4-31.2)
Clinic attendance		
Rural	249	34.3 (32.9-35.7)
Urban	251	30.3 (29.0-31.6)
Marital status		
Married/cohabiting	428	32.7 (31.7-33.7)
Not married	72	29.1 (26.1-32.2)
Employment		
Farmer	208	34.9 (33.4-36.5)
Housewife/student/unemployed	131	29.8 (27.8-31.6)
Petty trader/day employee/ other work	122	30.9 (29.0-32.8)
Permanent employment	39	30.3 (27.4-33.3)
Education		
Illiterate/primary (standard 1-4)	51	33.0 (29.6-36.4)
Primary (standard 5-7)	366	32.8 (31.7-33.9)
Secondary or higher	83	29.6(27.4-31.9)
No. of pregnancies (including the current one)		
1	167	28.8 (27.2-30.4)
2	122	32.0 (30.2-33.8)
3	84	33.9 (31.8-36.0)
4+	127	35.2 (33.0-37.4)

(66%) knew that it could be transmitted during labor. Due to a common misconception that HIV could be transmitted through breathing, this "dummy" question was included in the questionnaire; 37% believed that this was a route of transmission. Thirty-seven percent correctly answered all four questions on possible routes of transmission. Having more than one child increased the likelihood of having four correct answers about the routes of MTCT (40.3% vs 29.1%; odds ratio [OR] = 1.65, 95% confidence interval [CI] = 1.01-2.46), whereas not being married reduced the likelihood (25.7% vs 38.4%; OR = .56, 95% CI = .31-.98). Focus group discussions revealed a strong, widespread belief that all infants born to HIV-infected mothers were already infected in utero.

Knowledge of the Benefits of Breast Milk

Breast milk was highly valued, and all but one of the participants regarded it as the best way to feed an infant.

Only a modest percentage, 17%, of the women were aware that breastfeeding could prolong the intervals between births, and a minority had used breastfeeding as a method of preventing pregnancy. The main reasons for terminating breastfeeding were a new pregnancy, "traditions," insufficient breast milk, and the child's refusal to take the breast.

Furthermore, only 17% knew that it is not necessary to add water during the first 4 months. Women attending urban clinics more often responded that "fluids other than breast milk were not necessary during the first 4 months of life" compared to women attending rural clinics (23.1% vs 10.4%; OR = 2.58, 95% CI = 1.56-4.25). Furthermore, women with secondary education were more likely to have knowledge of exclusive breastfeeding than were women with no formal education (21.7% vs 7.8%; OR = 3.25, 95% CI = 1.03-10.23). However, only the urban-rural clinic attendance relationship remained statistically significant in the multivariate analysis (OR = 2.37, 95% CI = 1.42-3.96). No other demographic variables showed any significant relationship with exclusive breastfeeding.

Factors Predicting Early Termination of Exclusive Breastfeeding

Table 3 shows the prevalence of early termination of exclusive breastfeeding of the lastborn child in the group of multigravidas among different subgroups and a logistic regression analysis predicting the likelihood of not disrupting exclusive breastfeeding early. Marital status and having knowledge of exclusive breastfeeding were the factors that showed a significant difference, as unmarried women and women not having knowledge of exclusive breastfeeding were more likely to terminate exclusive breastfeeding early.

Discussion

In this area of northern Tanzania, breastfeeding is universal and prolonged partial breastfeeding is widely practiced. We found only modest variations in the duration of breastfeeding among demographic subgroups in this population. However, few infants were exclusively breastfed for the first 4 months in this region, and this has also been reported in a number of other countries in Africa in spite of long duration of partial breastfeeding. Our findings are also consistent with the results from other studies of breastfeeding practices undertaken in Tanzania.^{3,4,14,15}

Based on our own qualitative work, we know that fluids are commonly given as a supplement, for there is a misconception that breast milk is not sufficient to quench thirst. Therefore, we believe that the prevalence of mothers who introduced fluids early is still underestimated. Furthermore, the importance of exclusive breastfeeding is a topic commonly taught at the mother-child-health clinics, and most mothers are now highly aware of the benefits of practicing exclusive breastfeeding; consequently, questions concerning the practice may be regarded as sensitive, and answers may be given in order to please the interviewer.

In the 1996 TDHS survey, it was noted that the median duration of exclusive breastfeeding is about 1 month.⁴ Our results do not support this finding, since as many as 46% of the women reported that they had introduced additional fluids to breast milk after only a few days. Our finding is further supported by the fact that only 17% responded that the infant did not need any fluids in addition to breast milk during the first 4 months. We found that 85% started breastfeeding within the first 2 hours after birth, which is consistent with the 1996 TDHS report.⁴

The participation rate of this study was high. We believe that the reason for this is that MTCT of HIV is a topic in which the pregnant mothers were interested and the setting (a postnatal clinic) was seen as appropriate for an interview concerning these issues.

We have used 4 months as the reference period for exclusive breastfeeding, although recent research has shown that there appears to be no evidence in favor of introducing complementary foods before 6 months of age.¹⁶⁻¹⁸ We believe, however, that 4 months was appropriate in this setting where the prevalence and duration of exclusive breastfeeding is low.

Our breastfeeding histories are based on retrospective data. It is recommended that breastfeeding practices be based on 24-hour-recall data rather than retrospective data.¹² The associations based on retrospective data collection may suffer from both recall bias and digit preference.³ Various difficulties of accurately estimating the duration of breastfeeding and breastfeeding trends in general have been reported in the literature.³ One of the disadvantages of a retrospective approach is that in many non-Western cultures, precision of age in terms of months (or weeks) is not perceived as important. In the 1991-1992 TDHS, 60% of the reported breastfeeding durations were multiples of six.¹⁹ This was considered to be the result of measurement errors and not a true reflec-

Table 3. Logistic Regression Analysis Results: Odds of Early Termination of Exclusive Breastfeeding* by Sociodemographic Factors

Background Factor	No.	Early Termination of Exclusive Breastfeeding	Bivariate		Multivariate	
			Odds Ratio	95% Confidence Interval	Odds Ratio	95% Confidence Interval
Age, y						
16-20	18	50.0%	1			
21-25	95	48.4%	.94	.34-2.57		
26-30	120	45.0%	.82	.30-2.20		
31-44	76	43.4%	.77	.27-2.15		
Residence						
Rural	192	45.8%	1			
Urban	117	46.2%	1.01	.64-1.61		
Clinical attendance						
Rural	165	48.5%	1			
Urban	144	43.1%	.80	.51-1.26		
Education						
Illiterate/primary (standard 1-4)	35	54.3%	1			
Primary (standard 5-7)	237	44.7%	.68	.33-1.39		
Secondary	37	45.9%	.72	.28-1.81		
Marital status						
Not married	25	88.0%	1		1	
Married/cohabiting	284	42.3	.10	.03-.34	.09	.04-.24
Occupation						
Farmer	133	49.6%	1			
Housewife/student/unemployed	65	44.6%	.82	.45-1.48		
Petty trader/day employee/other work	82	45.1%	.83	.48-1.45		
Permanent employment	29	34.5%	.53	.23-1.23		
No. of pregnancies						
2	122	50.5%	1			
3	84	39.0%	.63	.35-1.13		
4+	124	46.8%	.86	.51-1.45		
Knowledge of exclusive breastfeeding						
Need fluids	254	53.5%	1		1	
Do not need fluids	55	10.9	.11	.04-.26	.08	.02-.31
Knowledge of mother-to-child transmission of HIV						
0-3 correct answers	178	49.4%	1			
4 correct answers	129	40.3	.69	.44-1.09		

*Children who were said to have received only breast milk for the first few months were defined as exclusively breastfed. Those for whom additional fluids and/or food were introduced during the first few days after birth were given the classification "early termination of exclusive breastfeeding" and were defined as having been partially breastfed.

tion of the weaning patterns.^{3,19} In our study, 70% of the reported breastfeeding durations were multiples of six. Although our result (23.7 months) does not differ much from that of the TDHS (22.6 months), based on current information on breastfeeding, this methodological problem may explain the weak correlation in our study between reported breastfeeding duration and sociodemographic factors.

The fact that young urban women with some modern attributes (eg, unmarried, not farmers, of low parity) reported a shorter intention to breastfeed than women with traditional attributes suggests that the average breastfeeding duration might gradually decline in Tan-

zania in the coming years (as this segment of the population may increase). This finding is further supported by an anthropological study undertaken in a neighboring region that found that young childless women to a large degree perceived their breasts in terms of their attractiveness rather than their function. The women who were interviewed emphasized the aesthetic aspects of having beautiful breasts²⁰ and indicated their belief that breastfeeding leads to less attractive breasts. This contrasts with the traditional perception of breasts, which gives greater emphasis to their functional attribute, that is, producing milk for the infant. The Kiswahili word for milk and breast is the same, *maziwa*.

The knowledge of MTCT transmission through breastfeeding and during pregnancy was high. The reported yet inconclusive finding that exclusive breastfeeding had been shown to carry a significantly lower risk of MTCT of HIV-1 than mixed or partial feeding⁸ was incorporated as a theme during focus group discussions. This information was perceived as contradictory to women's recent awareness that breast milk can transfer the virus. Thus, it was not easily understood and was received with skepticism. The matter is further complicated by the common misconception that an infant born to an HIV-infected mother is already infected in utero. For these reasons, mothers perhaps do not regard the recommendation to exclusively breastfeed as a valid option. In addition, we have to bear in mind, as with other infections, that HIV infection may affect milk production and/or maternal behavior with regard to feeding.

Attending an urban clinic was the strongest predictor of knowledge of exclusive breastfeeding, although urban women reported a shorter intended period to breastfeed than their rural counterparts. This finding is consistent with another study conducted in Tanzania, which reports that urban mothers are more likely to initiate and practice exclusive breastfeeding than rural mothers, although rural women breastfeed their children slightly longer.¹ An explanation for this could be that in general, the health care staff at urban clinics have a better education, the work of the staff is better supervised, and staff members are exposed to more training opportunities compared to their rural counterparts. It may also indicate that health care workers themselves must be knowledgeable and convinced of the benefits of the practice to enable mothers to follow their advice. Having knowledge of exclusive breastfeeding and being married remained statistically significant predictors for not terminating exclusive breastfeeding early.

Conclusion

Breastfeeding practices have been shown to be sensitive to a number of individual and societal characteristics.²¹ The "urban and able," who are most able to afford an alternative to breastfeeding, are indeed the ones who have the lowest intention (in terms of duration) to breastfeed in the future. When combined with a recent awareness of MTCT of HIV through breastfeeding, mothers not knowing their status may believe they are at risk of being infected and start to feel guilty about breastfeeding their infant, which can lead to changing infant-feeding practices over time.

If the results from the observational study of Coutsooudis et al^{8,9} are confirmed, then the public health benefits of exclusive breastfeeding for HIV-infected mothers in resource-poor settings are considerable. However, it remains a challenge to motivate and enable HIV-infected mothers and mothers of unknown status to practice exclusive breastfeeding. The early introduction of fluids will have to be challenged, and further research is needed to understand the reasons that mothers continue to practice this tradition. According to the WHO/UNAIDS/UNICEF guidelines, the decision of whether to breastfeed should be made by each HIV-infected mother based on full information of the options available. In our study, the majority of mothers did not see a need for, or even any benefit from, the protection offered by exclusive breastfeeding because they believed that the babies were already born HIV infected. Therefore, it is important to be aware that in addition to being a rare practice, the benefit of practicing exclusive breastfeeding if infected with HIV is being questioned by most mothers. The guidelines further recommend that women of unknown HIV status should continue to breastfeed. This recommendation would apply to a majority of women in large, resource-poor areas where testing is not routinely practiced. If exclusive breastfeeding is going to be a viable option, intensive efforts to promote the practice, not least among health care workers and other role models, are necessary.

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Resumen

El objetivo de este estudio fue describir las prácticas de la lactancia materna; el conocimiento sobre la lactancia materna de las mujeres embarazadas con relación a la transmisión madre-hijo del VIH; y explorar factores asociados a la lactancia materna exclusiva, especialmente en presencia del VIH/SIDA. Se efectuaron encuestas con entrevistas en un corte seccional a 500 mujeres embarazadas in la región de Kilimanjaro, junto a grupos focales con mujeres embarazadas. Entre las 309 madres que habían amamantado previamente, 85% iniciaron la lactancia materna en las primeras horas postparto, y 18% de los recién nacidos recibieron algún alimento suplementario. La duración promedio de la lactancia fue de 23.7 meses, pero 46% de las madres introdujeron otros líquidos tempranamente. El conocimiento de la transmisión del VIH a través de la leche materna se asoció a las prácticas de la lactancia. Las mujeres casadas (OR = .09, 95% CI = .04-.24) y aquellas que conocían el concepto de lactancia materna exclusiva (OR = .08, CI = .02-.32) fueron las que menos suspendieron la lactancia materna exclusiva tempranamente. La lactancia materna exclusiva se encontró como una práctica poco frecuente y la transmisión madre-hijo del VIH puede complicar las recomendaciones con relación a esta práctica.