

Breastfeeding Patterns Among Ethiopian Immigrant Mothers, Israel, 2005–2006

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ABSTRACT: **Background:** The rate and duration of breastfeeding in Ethiopia is very high. Factors that could affect breastfeeding among women emigrating to Israel include the desire to adopt "modern" behaviors, the availability of infant formulas, and the greater awareness of AIDS and fear of transmission via breast milk.

Objectives: To examine the rate and duration of breastfeeding among recent Ethiopian immigrants to Israel.

Methods: Using a structured questionnaire we interviewed 93 Ethiopian born mothers of children aged 2 months to 5 years living in northern Israel.

Results: Ninety-two percent of the children born in Ethiopia were exclusively breastfed as compared to 76.3% of the Israeli born children, in whom the rate of mixed feeding was 18.3%. Although the duration of breastfeeding of the youngest child was significantly shorter than that of the firstborn (20.1 vs. 24.8 months), it remains much longer than the average duration for native Israeli mothers. No association was seen between breastfeeding rate or duration and the years since immigration, work outside the home or exposure to formula. The women's attitude towards breastfeeding was positive despite the lack of specific knowledge concerning breast milk and infant formulas.

Conclusions: Breastfeeding patterns among Ethiopian women have changed since their immigration to Israel. These changes probably reflect the cultural and societal pressures to acculturate to the mores of the adopted society. Reinforcing traditional family and peer support for these women is important to preserve breastfeeding in this population. This should be done within the context of changes that support breastfeeding in Israeli society.

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Immigration to a new country is usually followed by changes in health status and behaviors [1]. As immigrants acculturate to their adopted society, over the course of time their health behaviors may come to reflect those of their new country. Since not all of these changes promote health, it is important for policy makers and providers to be aware of

changes in health behaviors among immigrants so that they may develop appropriate interventions [2,3].

Some 100,000 persons from Ethiopia have immigrated to Israel since 1984; most arrived after 1990 and the immigration is still ongoing. Although breastfeeding is still deeply entrenched in Ethiopian culture, the processes associated with immigration to Israel (or any new country) affect all aspects of life, and changes in breastfeeding patterns among immigrant women are to be expected [4]. Various factors were found to influence breastfeeding, such as education, age, marital status, socioeconomic position, race and origin [5]. Novotny et al. [6] investigated factors influencing the duration of breastfeeding among Hawaiian women of different ethnicities and found that women of Japanese origin were at a higher risk of early cessation of breastfeeding despite the fact that a higher percentage of them initiated breastfeeding compared to women of other ethnic groups. In a study conducted in Southern California that investigated the breastfeeding habits of Ethiopian women, the average duration of breastfeeding was 4.2 months [7]. A significant association was seen between the duration of breastfeeding and the mother's level of education, income and exposure to the distribution of infant formula samples in hospitals. No association was found between breastfeeding duration and the duration of living in the United States. The two most frequent reasons for stopping breastfeeding were the mother's return to work and lack of milk. It was found that Ethiopian women who immigrated to the USA do not continue the breastfeeding tradition they practiced in Ethiopia. The present study examined breastfeeding rate and duration among Ethiopian born women who immigrated to Israel between 1984 and 2006.

SUBJECTS AND METHODS

Ethiopian born mothers who immigrated to Israel during the period 1984–2006 and who had at least one child aged 5 years or less enrolled in one of the selected mother and child health centers (well-baby clinics, known in Israel as *Tipat halav*) or nurseries or kindergartens in the environs of Hadera in northern Israel were invited to participate in this cross-sectional study. Of the 186 women who were invited, 8 were approached to be interviewed in the maternal and

child health centers, whereas 178 who had children attending the selected nurseries and kindergartens were initially invited to a lecture of interest to the Ethiopian community. The 85 women who attended were then asked to participate in the study. None of the women who were personally approached refused to be interviewed. The interviews, which lasted 20–30 minutes, took place from 22 May 2005 to 2 June 2006 in the well-baby clinics or in the mother's home. The women were interviewed by the same interviewer (S.N.) using a structured questionnaire with the assistance of one of the two community workers who served as translators, translating from the women's native Amaharic to Hebrew. The translators received prior training so that the study interview could be conducted in an unbiased manner.

The questionnaire was based on one that was used in a previous study of breastfeeding among women in Israel in 2004 [8]. The women were asked about initiation and duration of breastfeeding in the youngest (index) child as well as older children. In addition, there were questions on the knowledge and attitude of the woman and her partner towards breastfeeding. The questionnaire was pretested on a sample of 10 women prior to the study. The a priori exclusion criteria were for mothers of children who were adopted, or had prolonged hospitalizations, chronic illnesses or medical contraindications to breastfeeding. In practice, no women were excluded from the analysis for these reasons.

The association between the duration of breastfeeding and the independent variables (marital status, educational level, number of children, employment status, time from date of immigration, religious observance) were studied using independent *t*-tests. Because the mothers of children born in the pre-emigration compound in Addis Abba were exposed to infant formulas and choice with regard to infant feeding, these women's breastfeeding behaviors were analyzed together with those of mothers whose children were born in Israel. Comparison of the duration of breastfeeding between the first child and the youngest child was performed using a paired *t*-test. Women who did not breastfeed were removed from analyses of the duration of breastfeeding. Since not all women had weaned their children at the time of the study, duration was calculated for the youngest child if his/her age was ≥ 6 months or if the child had been weaned before the time of the interview. This potentially underestimates the duration of breastfeeding for the youngest child. In order to see if significant differences remained, the analysis was repeated for children over 1 year of age or who were weaned. $P < 0.05$ was considered statistically significant.

RESULTS

Ninety-three women were interviewed, approximately 50% of those invited to participate in the lecture that preceded the invitation to be interviewed. None of the women who were

Table 1. Demographic characteristics of the women

Average age (yrs)	35
Years since immigration	10.4
% with no schooling	78%
Total number of children	4.7 \pm 2.4
No. of children born in Ethiopia	3.8 \pm 1.9
No. of children born in Israel	2.7 \pm 1.4
Average age of youngest child (yrs)	2 \pm 1.5
Traditional or religious	85%
Rural background in Ethiopia	78.5%
Works outside the home	32%
Lives with husband	85%

personally approached refused. There were no exclusions for reasons of premature birth, prolonged hospitalization of the child, or medical contraindications to breastfeeding. Table 1 summarizes the demographic characteristics of the women interviewed. Their average age was 35 years and they had an average of 4.7 \pm 2.4 children. The youngest child of 74 women had been born in Israel, 17 on route to Israel and 2 in Ethiopia. The average age of the youngest child was 2 \pm 1.5 years, the same as the median age.

On average, the women had immigrated to Israel 10 years previously (SD 7.5 years). Over 75% came from rural areas in Ethiopia and 78% lacked any formal education. Only two had a post-high school education. About 33% worked outside their homes on average 28 hours per week. Eighty-five percent of the women lived with their husbands; 6.5% had no partner. Fifty percent of the women defined themselves as traditional, 37% as religious and 3% as secular. The remaining women were in the process of conversion to Judaism.

BREASTFEEDING PATTERNS

Table 2 presents the feeding method as reported by the mothers. For the children born in Ethiopia, 92.6% of the women reported exclusive breastfeeding and 3% reported giving breast milk with supplements. For the Israeli born children, the rate of exclusive

Table 2. Comparison of type of feeding between oldest child born in Ethiopia and youngest child born in Israel

Type of feeding	Ethiopia		Israel	
	n	%	n	%
Exclusive	63	92.6	71	76.3
With supplements	3	3.0	17	18.3
Bottle feeding	2	4.4	5	5.4
Total	68	100	93	100

$\chi^2 = 7.87, P = 0.02$

breastfeeding reported was lower (76.3%) and that of mixed feeding higher (18.3%) (chi-square = 7.87, $P = 0.02$). Since some of the children were not yet weaned at the time of the interview, the duration of breastfeeding of the youngest child was calculated for those women whose children were 6 months or older or if they had already weaned their child, regardless of age. The average duration reported for breastfeeding the youngest child was 19.7 ± 12.4 months. No significant association was found between breastfeeding duration and self-reported exposure to media promoting the use of infant formulas. The percentage of women breastfeeding their youngest child for more than a year was similar for women immigrating from rural areas and from urban centers, 56.7% and 60% respectively. The duration of breastfeeding was somewhat affected by the length of stay in Israel. Of the women who had been in the country for ≤ 11 years 75% breastfed for more than one year whereas only 56% who were in the country for 12 years did so (chi-square = 3.596, $P = 0.058$). Mothers, sisters and Ethiopian women friends were noted by almost half the women to have the most influence on breastfeeding; about 25% were influenced by medical personnel and 17.2% by their partners. Thirty-two women reported stopping breastfeeding prematurely, earlier than they would have in Ethiopia. The reasons cited were lack of milk (37.5%) and weight loss of the baby (31.3%). Of women who worked outside the home, 55.6% breastfed for more than a year in contrast to 75.7% of women who did not work outside the home ($P = 0.065$) [Table 3]. Only 9.4% cited work as the reason for stopping breastfeeding.

Of the 85 women who had more than one child, 78 breastfed both their first and youngest child; 1 did not breastfeed either child, 4 did not breastfeed their first child, and 3 did not breastfeed the second child. After excluding mothers of children under age 6 months who had not yet weaned their infants we found the average duration of breastfeeding to be 4.7 months longer for the firstborn than for the youngest child, 24.8 versus 20.1 months (paired t -test, $P < 0.003$). Of the 85 women with more than one child 22 claimed that there was a change in breastfeeding patterns between their first child and those born in Israel. Table 4 details their varied and instructive reasons for this claim. The reason most commonly cited was that "it is shameful to breastfeed in this country" (25%).

Table 3. Duration of breastfeeding the youngest child by maternal work outside the home

Duration of breastfeeding	Work outside the home		Total
	Yes	No	
Up to one year	14 (24.3%)	21 (44.4%)	35
One year or more	10 (75.7%)	37 (55.6%)	47
Total	24	58	82

$\chi^2 = 3.397, P = 0.065$

Table 4. What was the difference between breastfeeding the oldest and the youngest child?

Percent	No.	Difference cited
31%	8	It is embarrassing to nurse in Israel
27%	7	In Israel formula is available
15%	4	In Israel the milk dried out as compared to Ethiopia
11%	3	Medical complications
4%	1	Trauma
4%	1	The child goes to day care and nurses less
4%	1	The baby didn't want to
4%	1	In Ethiopia it was easier
100%	26	Total

Most of the women demonstrated general knowledge on the benefits of breast milk: 63% said that breastfeeding was healthy, 85% thought that mother's milk had a composition similar to that of infant formulas, but was healthier. Only one woman thought that infant formulas were healthier. Detailed knowledge of the composition of the breast milk was low and 80% of the women could not name specific illnesses that are prevented by breastfeeding. Less than half of the women (44%) knew that the Ministry of Health recommends exclusive breastfeeding until the age of 6 months; another 31.2% thought that the Ministry recommends exclusive breastfeeding until the age of one year, and 14% thought that the Ministry of Health recommends infant formulas.

Positive attitudes towards breastfeeding prevailed. Most women (89.8%) thought that breastfeeding was more comfortable than bottle feeding, and more than 90% thought it more enjoyable. About 65% stated that work does not interfere or prevent breastfeeding; only 3% thought that a working woman cannot breastfeed. Most women (72%) reported that their partners encouraged breastfeeding, while 12% noted that it was of no concern to their partners. One woman noted that her partner allowed breastfeeding only at home.

Seventy percent of the women reported that they were exposed to media advertising of infant formulas. Approximately 60% received samples, half of them in hospitals, 30% in the well-baby clinics – two places where the Ministry of Health is officially committed to banning the distribution of samples. Another 15% received samples by mail. Seventy percent of the women remembered being told in the well-baby clinics that it is very important to breastfeed the baby, but 23.7% did not remember hearing any such statements relating to breastfeeding.

DISCUSSION

The Ethiopian immigration to Israel is unique in that it involved immigration of communities en masse to a new country.

Although Ethiopian immigrants continue to live in relatively close-knit communities, the move from small, remote and self-contained villages where subsistence agriculture was the norm to modern western urban settings has been accompanied by many changes in the social structure, with a weakening of the support systems of the traditional community. Changes in family structure, loss of parental authority, increased independence of women, breakdown of marriages and increased family violence have been reported [9]. The immigrant encounter with modern Israeli society and the stress of immigration combined with the loosening of traditional community bonds led us to believe that traditional health behaviors such as breastfeeding might be at risk. Under ideal conditions it would be unrealistic to expect that health care staff would replace the traditional familial and societal support systems that provide suitable answers for the breastfeeding needs of Ethiopian mothers in their adopted country. How much more so when the health care workers are understaffed and not sufficiently familiar with Ethiopian culture. Special health education and social acculturation programs have been designed to ease the way for these immigrants to deal with the new reality and its challenges, such as modern health care, health insurance, change of traditional diet and food sources, supermarkets, banking, registration for school, etc. How to successfully continue breastfeeding was not included in these programs as other more pressing needs were considered of higher priority [10]. Despite all the above, our study demonstrates that while there are significant changes in breastfeeding patterns overall, Ethiopian women continue to breastfeed in higher numbers and for longer periods than Israeli born women. The percentage of Ethiopian women who breastfeed for at least half a year is higher than reported for Israeli women (94.6% vs. 83% and 90% for Jewish and Arab women, respectively) [11]. We found that Ethiopian women breastfeed for an average of 19.7 months compared to 6 months for Jewish women and 8.6 months for Arab women, as reported in the national survey of breastfeeding conducted in 2003 [12]. The breastfeeding rates of these immigrant Ethiopian women are not dissimilar to the rates reported for women still living in Ethiopia (95% breastfeeding for 6 months) [13].

What explains the persistence of lengthy breastfeeding, even if it is mixed feeding initially? Firstly, these women were relatively old, all were born in Ethiopia and most had successfully breastfed in the past. Maternal age has been shown internationally to be associated with initiation and duration of breastfeeding [14]. Previous successful experience in breastfeeding is an important predictor of subsequent success [15]. Successful breastfeeding in women – despite their lack of formal and specific knowledge of the health benefits of breastfeeding – is not surprising. In contrast to western countries, in developing countries education is generally inversely related to breastfeeding duration [16]. That the women came from predominantly rural backgrounds where breastfeeding is more common and of

longer duration is also a factor [17]. The women's lack of specific and formal knowledge is counterbalanced by the peer support mentioned by 50% of them. Dennis [14] stresses the relative importance of peer influence on the duration of breastfeeding in women of lower socioeconomic status as opposed to the shorter and more time-limited effect of professional advice. This holds true in our cohort of women who were mostly poor and lacking formal education.

The increase in the rate of mixed feedings and the decline in the overall duration between the first and youngest child that we found portend possible further changes. Some findings need to be followed, namely, the borderline statistical significance in the relationship between women who worked and duration of breastfeeding, as well as between length of time in Israel and duration. These findings suggest those of Perez-Escamilla and co-workers [18] who found that longer length of residence in the U.S. was negatively associated with breastfeeding initiation and duration among Puerto Rican women. The association between working outside the home and shortened duration of breastfeeding is a well-described phenomenon and is not exclusive to Ethiopians. It is expected that with time more Ethiopian women will seek work outside the home for both economic and other reasons [19,20].

Landrine and Klonoff [21] suggest that with acculturation, behaviors that are prevalent in the society of origin will diminish upon immigration and integration into the new society. The acculturation process is complex and more than a linear array of changes occurring over a number of years since arrival, acquisition of language, etc. [5]. Length of stay is only one measure (and a somewhat inadequate one) of the degree of acculturation in the women interviewed. In the case of Ethiopian immigrants to Israel, these integrative processes in general are both desirable and inevitable. For immigrants coming from rural and sometimes remote Africa, the process of acculturating to modern western society is expected to be multigenerational. It would be naïve to suggest otherwise. Ethiopian immigrants are not yet well acculturated in Israeli society [10]. Studies have shown that the process of integration among Ethiopian immigrants and their children into Israeli society (as well as other minority populations) is accompanied by an adoption of the prevailing ethos of family and marriage [22]. The retention of breastfeeding patterns that are reflective of the "old country" may change as these Ethiopian women and their daughters become more western and integrated into Israeli society. Mendlinger and Cwikel [23] point out how respect for traditional values in young Israeli educated Ethiopian women helps them absorb health-related messages from their older and more traditional mothers. Still they note breastfeeding as one of the areas relating to women's health and fertility where relative conflict existed between the mothers' knowledge and values and their Israeli educated and raised daughters. The responses noted by more than 25% of the women as to what was different about breastfeeding in Israel

as compared to Ethiopia merit some consideration. That it is thought shameful or embarrassing to breastfeed in this country is suggestive of undercurrents of change that do not support breastfeeding. The negative effects of feelings of embarrassment or shame on breastfeeding initiation and success have been noted in other cultures as well [21,24].

The decrease in breastfeeding among immigrant Ethiopian women was to be expected, but this should not be viewed as an exclusively negative phenomenon. We believe it should be viewed in the overall picture of the almost daunting task of acculturation that these women face. As in any society, finding the proper mix of integration and acculturation, while at the same time preserving cultural identity, is difficult. Programs that support breastfeeding among Ethiopian women in Israel will probably need to address these larger issues. Moreover, any attempts to preserve the breastfeeding patterns of Ethiopian women will require taking on the challenge of changing the mores and breastfeeding practices of Israeli society.

The two major weaknesses of our study are those of selection and recall bias. Although our study population was not randomly sampled from the total population of Ethiopian immigrants in Israel, the demographic characteristics of the women interviewed are to our knowledge representative of this population in Israel. We tried to minimize bias in our sample by interviewing women from different geographic locations as well as in different venues. The possibility of recall bias is central to much of breastfeeding research and that of differential recall bias more so. Serdula et al. [25] suggest that maternal recall is a valid and reliable estimate of breastfeeding initiation and duration, particularly up to 3 years after breastfeeding. We believe that the women's reports of breastfeeding their youngest child are reliable, but we have somewhat less confidence in their reports concerning their oldest child. To accommodate for this weakness, we questioned the women also on their subjective experiences of breastfeeding in Ethiopia and Israel.

Finally, it is appropriate to mention the deficiencies in the implementation of the World Health Organization's Baby Friendly Hospitals Initiative that were found in the study. Israel is officially committed to the Baby Friendly Hospitals Initiative, a 10 stage program designed to promote breastfeeding in the birthing hospitals, and is a signatory to the International Code of Marketing of Breast Milk Substitutes [10]. That the women reported receiving samples of infant formulas in both hospitals and well-baby clinics points to the need for more regulation in this area. These reported infractions of the Initiative are not exclusively directed at Ethiopian women and have ramifications for the general population as well. That and the fact that almost one-quarter of the women did not recall receiving verbal support of breastfeeding point to the need to increase the professional and organizational support of breastfeeding in general in Israel. Activity in this realm would benefit all mothers and not just specific populations.

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