

**Attitudes and Beliefs Related to Breastfeeding
and their Effect on Infant Feeding in Central America: Recent Findings.^{1 2}**

I. NIEVES*, M. GRIFFITHS, I.Y. NUÑEZ, L.E. RAMOS, J. RIVERA, and S. SAENZ DE TEJADA.

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Formal education for women, urbanization and the advertising practices of formula companies have been credited mostly for the trends away from exclusive breastfeeding. The title of today's symposium, the persistence of cultural effects on nutrition, signals the renewed recognition that cultural factors--beliefs, attitudes and values--influence feeding decisions and nutritional outcomes in important ways. This paper focusses on how cultural factors shape the day-to-day breastfeeding and weaning choices of women in Guatemala and El Salvador.

Populations and methods of studies

Two different field studies were conducted to obtain qualitative information on cultural issues associated with infant feeding practices, prior to the design and implementation of education programs aimed at behavior modification. In both cases the populations were rural and engaged in a combination of subsistence and commercial agriculture. Poverty, low educational attainment, food insecurity and high levels of malnutrition characterize both. The Guatemalan study participants were all Mayan Indians who spoke some Spanish. In El Salvador the population studied was mestizo (1,3).

Sixty four Guatemalan women from two villages were interviewed in depth; in rural El Salvador 73 women from eight communities representing the country's geographic regions were also interviewed in depth. Interviews involved some direct observations of specific behaviors. Then household trials of recommended feeding behaviors were conducted with some of the same women, in order to establish which cultural elements related directly to the success or failure of the behavioral experiment. Focus groups discussions took place with different sets of women to probe further into cognitive barriers to change and ways to overcome them.

This research approach and its qualitative techniques are jointly known as formative research, because the results are used to give shape to an educational intervention. Formative research is applied, highly focussed and guided by the requirement to find viable ways of modifying specific food-related behaviors.

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Results and discussion

Initiation of breastfeeding

There is considerable variation as to when breastfeeding is initiated in both groups. In home births, which are the rule, strong beliefs about the appropriateness of colostrum as an infant food are important determinants of the timing of breastfeeding initiation.

Women think that the newborn's stomach requires cleaning and preparation to receive food. Prelacteal purges in the form of honey, oil and herbal concentrates are given by grandmothers and midwives on a one-time basis. In Guatemala most Mayan women do not consider colostrum to be a food that gives nourishment to infants. This belief is shared by about half of the Salvadorean women. These women introduce breastmilk at least a day after the infant was born, usually following a ritual steam bath. When women do not give colostrum prelacteal feeds take on importance as food and are given anywhere between one and four days, eg, two to three days of sugar water or honey fed with a spoon, or thin starch-based gruels fed in a bottle. When these mothers feel they have "real" milk they discontinue the prelacteal feeds. Women participating in focus group discussions in El Salvador were asked for top-of-mind responses to the idea of not giving prelacteal feeds to their next infant. More than half argued it would be impossible because the children would die of starvation.

The remainder of the women in El Salvador think that colostrum--the "first milk"--is good food. These women offer colostrum to their infants and initiate breastfeeding within a few hours after birth, even if they first give a prelacteal purge.

Exclusive breastfeeding

Independent of when it occurs breastfeeding is virtually universal in both societies. Indigenous populations in Guatemala breastfeed in close to 100% of cases and in El Salvador 96% of rural populations initiate breastfeeding (5,2). Breastfeeding is highly valued in both cultures. It is associated with maternity and affectively charged. The attitude towards breastmilk is strongly positive, making it the only choice for women with newborns. Breastmilk is thought to contain nourishing vitamins which make it the best food for very small infants, but not for very long thereafter.

The observations performed in the El Salvador study show that infants lactate between eight and 10 times in a 24-hour period in the first two months, anywhere between 5 and 15 minutes per episode. From the third month on the frequency decreases to four to six times and the duration of each episode is reduced by about half because only one breast is offered. In Guatemala the pattern is very similar. In both populations, however, exclusive breastfeeding is a very rare occurrence lasting no more than a month.

Introduction of liquids

In both populations there is a persistent belief infants become thirsty when hot; human milk, because it is food, cannot satisfy their thirst. Women say they know this because babies continue crying after they have breastfed. Beginning as early as the first weeks infants receive non-nutritious liquids like water, juice and coffee to calm their thirst. In very few cases formula is offered if the family can afford it. In El Salvador the majority of infants were receiving liquids other than breastmilk by the time they were one month old.

Perhaps the most important reason for introducing liquids is the pervasive sentiment among women in both groups that they are incapable of producing sufficient milk to satisfy infants' hunger and keep them growing well. This lack of self-confidence influences their perceptions of quantity and quality of milk produced. Women state often that their milk "dries up" and their infants are left hungry even after feeding from both breasts. Mothers refuse to believe that it is possible for a woman like them to produce enough milk to totally satisfy an infant's hunger and nutritional needs for a full four months.

Almost as prevalent is the strong feeling that their milk is so insubstantial that it does not meet their infants' needs for healthy growth. Mothers repeatedly report their milk is "thin", "yellow" and "old". They know this when their infants wake up very soon after breastfeeding and want to feed again or when they cry almost immediately after they have been fed and suck their thumbs or fists.

In both cases the behavioral response is to introduce liquids in a bottle to supplement breastfeeding from the time women say they detect their milk insufficiency. In the words of a Mayan woman "The formula is just to help us along so that my baby has enough milk." Often these decisions are influenced by grandmothers, friends and health care providers who insist that infants are hungry and maternal milk is insufficient or bad.

In the household trials conducted one third of the mothers who agreed to perform the trial of withdrawing all liquids except breastmilk from their infants under four months were not successful. They continued giving water and herbal infusions because they were convinced their infants were either hungry or thirsty and hot.

Introduction of weaning foods

The beliefs and attitudes closely associated with the introduction of semisolid foods have to do with the need to teach the infant to eat food during some imprinting period. Infants need to try a variety of foods in gradual form from the time they are very young so they will not get sick when they get older and want to eat them. If infants are not trained to eat soon they will not want to eat when older and mothers will have a very difficult time feeding them. Women know infants are ready to try food and their stomachs can digest it when they show an interest in particular food items.

According to women in both cultures infants "ask for" specific foods when their bodies tell them they need food in addition to breastmilk. This happens around the third month, but some children need food before then. Breastmilk is the best food and is necessary , but is not sufficient for infants to grow well and stay healthy. Food other than milk makes infants hard and strong because it has vitamins they need. If they are not given food before the fourth month infants will become sick and malnourished and eventually die of starvation. This position was strongly argued by women in both groups studied.

Food from the family pot is introduced in small quantities anytime from the second month up in El Salvador. They are given these foods to "try". There is no concept of specially prepared weaning foods. Rather, the liquid from the family pot is given with a few solids mashed and mixed in. By the end of the fourth month all were receiving food. The most common foods are cereal or starch-based gruels, soups and broths, mashed vegetables like potatoes and christophenes, mashed banana, and tortillas soaked in broth. In the Guatemalan study the introduction of weaning foods occurred a little later, around the fourth month, but by the sixth month all children were being fed from the family pot.

No data were collected on dietary intake of children under four months. In El Salvador the information on dietary adequacy of infants five to 12 months shows they were consuming less than 75% of the RDI for energy, without taking into account the energy from breastmilk. Children 13 to 24 months, half of whom were sick when the dietary studies were conducted, showed energy adequacies that ranged between 25 and 40% of the RDI, excluding breastmilk. In the Guatemalan study children six to 24 months were eating two to five meals a day from the family pot in addition to breastfeeding. As table 1 shows, their energy intake was deficient, meeting only between 73-85% of RDI, when calculating intake from breastmilk and food. Table 2 illustrates that as the number of total meals increases, so does the total energy intake, but energy derived from breastmilk stays constant. Total amounts of breastfeeding time also remains unchanged even as number of meals increases.

Table 1
Energy Intake in Children 6-24 Months, Highland Guatemala (1991)

Age	N	Energy Intake (Kcal)			RDI Energy	% RDI
		B.M.*	Other Food**	Total		
6-12	7	455	239	694	945	73
13- 18	8	390	538	928	1100	84
19- 24	7	325	701	1026	1210	85

* Breast milk intake calculated using upper values reported in previous studies (4).

** By direct observation using volume estimation (without direct weighing).

Table 2
Average Energy Intake and Total Breastfeeding Time
by Number of Meals Per Day, Highland Guatemala (1991)

Number of meals per day	N	Age Months	Average Energy Intake	Breastfeeding time in 12 hours*	Low SES(%)
≥ 5	11	15.7	618	41 min	36
4	5	15.4	394	43 min	60
≤ 3	6	15.8	352	36 min	67

* Sample Size: ≥ 5 meals, n=9; 4 meals, n=4; ≤ 3 meals, n=6.

Women's work and breastfeeding

Guatemalan and Salvadorean women hold strikingly similar beliefs about how working situations affect the quality of breastmilk. As with other aspects of breastfeeding these beliefs color their decisions regarding the length of exclusive breastfeeding and the introduction of weaning foods and liquids. Arduous work or that which exposes women to sudden or extreme variations in temperature, according to their interpretations of these conditions, is detrimental to breastfeeding. When women get too tired doing household chores or working for income their milk becomes hot and the breastfeeding infant gets sick with diarrhea. If women work in the fields unprotected from the sun the same results and consequences must be faced. When a woman touches water, catches cold or "catches water" her breastmilk will get cold and the infant will develop a cough. Women are very careful not to wash clothes for the first days after giving birth, but they must return to their daily chores eventually.

Women make the decision to introduce bottles with juices, gruels or formulas since before they return to the fields so infants get used to them. Then, when they are already picking snow peas or strawberries and infants need to feed while they are in the fields or recently returned from them, infants will accept a bottle. Mothers themselves will give a bottle while they "cool down" and then offer the breast. The same practice is observed when women do laundry or "catch water". Sometimes women will take a hot liquid before breastfeeding but they always want to make sure they have an infant feeding alternative.

Economic and material factors that influence feeding decisions

There are some very real material and economic circumstances that influence women's infant feeding decisions, apart from the persistence of cultural factors. These have to do with women's work load and the activities they perform to meet their economic responsibilities.

In both rural El Salvador and highland Guatemala women need to have considerable physical mobility. Housework and domestic production require that they leave the homestead often.

These outings are frequent albeit quick. Most women choose to leave their breastfeeding infants behind when they go out on these errands. They make the decision to introduce bottles so infants can feed if they wake up or cry while the mothers are away.

In both case studies women make the decision to introduce foods from the family pot when they feel constrained by the frequent demands of the breastfeeding infant. They cannot breastfeed them with the frequency the infants want because it interrupts the flow of their daily work, either in the house or in the field. Women say that they are very busy and express their anxiety about getting everything done, including feeding older children and husbands. Giving infant semi-solid food frees up their time to do other work. Women say that infants last longer between feeds when they are fed food from the family pot and that they themselves "buy" time for other things when the infant is "entertained" by food other than breastmilk. Food satisfies babies for longer periods of time than breastmilk.

Conclusions

Findings like these are very useful to applied and community nutrition interventions that attempt to produce behavioral changes to improve nutritional status. A thorough understanding of the cultural or cognitive barriers to behavioral modification as well as the opportunities for change that cultural elements provide is essential for the planning of effective education and communication programs.

These findings demonstrate the persistence of cultural factors in nutrition. Nonetheless, they must be interpreted in the context of the economic circumstances that shape the lives of poor people in developing countries. In considering cultural influences on behavior we should not discredit the very real impact that economic, modernization and social forces exert on feeding behavior and nutritional outcomes.

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ATTITUDES AND BELIEFS RELATED TO BREASTFEEDING AND THEIR EFFECT ON INFANT FEEDING IN CENTRAL AMERICA: RECENT FINDINGS.

Nieves, I.*, Griffiths, M., Núñez, I.Y., Ramos, L., Rivera, J. and Sáenz de Tejada, S. IDEAS, Ltd., Guatemala, The Manoff Group, Washington DC, Ministry of Health of El Salvador, Inst. Nac. de Salud Pública, México, and INCAP, Guatemala.

Qualitative information was collected of 64 indigenous women in highland Guatemala and 73 mestizo women throughout El Salvador via in-depth interviews and direct observations prior to the design of education/communication programs. Data were collected on beliefs, attitudes and values related to infant feeding in the first 24-36 months and on actual breastfeeding and weaning practices during health and illness. Findings on cultural factors were related to the infant feeding decisions of interviewed women and to patterns of breastfeeding initiation, exclusive breastfeeding, introduction of liquids and weaning foods into infants' diets. In both settings, despite important differences in cultural traditions, women hold very similar and strong beliefs, attitudes and values towards the qualities of breastmilk, breastfeeding, the nutritional needs of young children, and their own capacity of produce adequate quantities of milk of acceptable quality. These cultural factors color their interpretation of infant behaviors such as crying and influence their day-to-day decisions about infant feeding. Dominant in the resulting suboptimal feeding patterns is the almost complete absence of exclusive breastfeeding beyond the second month. These findings demonstrate the persistence of cultural factors in infant feeding practices in the early months.