

# Early-Childhood Feeding Practices Among Mexican Indigenous Population A Qualitative Study

Luz E Vera-Becerra

UGTO: Universidad de Guanajuato

Ana I Rodriguez-Guerra

UGTO: Universidad de Guanajuato

CLAUDIA MARTINEZ-CORDERO (✉ [claudiamartinezcordero@hotmail.com](mailto:claudiamartinezcordero@hotmail.com))

HRAEB: Hospital Regional de Alta Especialidad del Bajío <https://orcid.org/0000-0002-4867-7649>

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## Short report

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# Abstract

Breast feeding and complementary feeding practices are crucial for health across the life. The purpose of the study was to know some infant feeding practices in a Mexican indigenous population. Twenty Mexican indigenous mothers with children under two-year age answered a semi-structured interview. Most of the mothers reported to feed their children with breast milk during the first months, although exclusive breastfeeding did not meet the recommended time mainly due to cultural factors. We conclude the mothers followed the preferences and signals of the child for complementary feeding, and instinctively determined how and when to offer different foods to breast milk.

## Introduction

First two years of life are decisive for the human being; therefore, breast feeding (BF) and complementary feeding (CF) practices are crucial for health across the life (Romero-Velarde et al., 2016). The global strategy for infant feeding establishes exclusive breast feeding (EBF) for the first six months of life, thereafter an adequate and safe CF, maintaining a complementary BF until two years or more. In Mexico, infant population presents high rates of alterations in nutritional status (Rivera-Dommarco et al., 2013); however, there is a lack of research about minority groups. The purpose of the study was to identify feeding practices in children from 0 to 24 months of age in a Mexican indigenous population.

## Subjects And Methods

Cross-sectional study, 20 indigenous women with children 0-24 months of age were interviewed (beneficiaries of a comprehensive nutrition program in Chiapas, Mexico). A semi-structured interview was designed based on the Family Census from the program, "Un kilo de ayuda", the Individual Questionnaire for children 0-9 years of ENSANUT2005 (Mundo-Rosas et al., 2009), and a survey of the University of California Davis and the University of California and Guanajuato on migration and nutrition practices that promote childhood obesity (Heinig et al., 2009; Vera-Becerra et al., 2015); additionally, familiar characteristics and perception of the practices of BF and CF. The IRB approval number is UGTO/CEI-2012013.

## Results

### Family characteristics

average age of the mothers was 24 years; all of them spoke Spanish and Tzeltal (indigenous language). Most of the women had a basic educational level, three were illiterate. Their economic income came mainly from agriculture (Table 1).

### Breastfeeding

only 10% of the children received EBF until six months, although most of the mothers received previous counseling in this regard; almost half of the mothers offered their children other drinks from newborns. About reasons to stop EBF, mothers reported an insufficient milk production, loss of infant interest, and others. Most of the mothers had a positive perception of BF considering it the best food to avoid diseases of the child and promote growth; however, 10% of women gave BF only to avoid the child's crying (Table 2).

### **Complementary feeding**

the third part of the group of indigenous women justified the early introduction of fluids due to the delay in the "lowering" of breast milk and the presence of colic or diarrhea in the infant. Simple water, teas or infusions, and infant formulas or cow's milk were introduced from the first month of life. Coffee drink, bean or chicken broth, atoles and pozol (corn based hot drinks) were offered after three months of age; mothers moistened cereals like bread or tortilla in coffee or bean broth. Most of the mothers started CF early because they perceived that the BF was insufficient, mentioning that the infant was starting to lose weight; In addition, certain behaviors of the child-such as taking food or show the food dishes when the mother is eating are considered indications of appetite. On the other hand, introducing food early was recommended by family members (mothers/grandmothers) and health personnel. Apple, beans, and chicken were the most common solid foods in CF. Indigenous mothers also offered industrialized products such as yogurt and commercial baby foods.

### **Quantity and consistency of complementary foods**

When starting CF, half of the women offered their children 2-3 teaspoons, 3 times a day; the consistency of the food was mainly scraped or mashed. Beef, chicken, and fish were prepared in broth accompanied by rice or corn tortilla. Cookies and sweet bread were moistened in hot drinks like coffee or atole. Most of the mothers added sugar and salt to their children's foods.

### **Perception of complementary feeding**

Almost half of the mothers thought that CF should start between three and five months of age; only 30% considered starting CF after six months. Half of the mothers started with fruit and vegetables (apple, banana, chayote); a lower percentage of mothers started CF with beans and chicken.

## **Discussion**

Inadequate infant feeding practices are determined by economic, cultural, social, and educational factors. Cruz et al. reported that some women, when they are expecting a new product, suspended BF of the previous son because they considered that their milk could be a poison this child; another study found that some mothers associated BF with diarrhea and weight loss in children. As in other publications, the women in the present study stop breastfeeding because they considered that milk production was insufficient for the baby (Zaragoza Cortes et al., 2019).

The introduction of solid foods at three months of age coincides with other studies (Lindsay et al., 2008; Mennella et al., 2005; Zaragoza Cortes et al., 2019). The criterion of indigenous mothers for the early introduction of complementary foods agrees with other studies where women started complementary feeding when the child showed interest in the food that someone eats. Heinig et al. reported that women with Mexican-American children responded to feeling about the moment to introduce new foods (Heinig et al., 2006; Heinig et al., 2009). Studies in the Latino population mention that mothers introduce foods other than milk when they perceive that the supply of breast milk is insufficient and children lose weight (Sacco et al., 2006) (Lindsay et al., 2008). The present work shows that some health professionals, especially doctors, indicated complementary feeding before three months.

With respect to the preparation of complementary foods, indigenous women preferred hot or crushed preparations, which differs with other studies where thick preparations are preferred due that represent more food, and so a greater caloric intake (Zaragoza Cortes et al., 2019). Although it is recommended not to season foods at this stage (Alvisi et al., 2015; Romero-Velarde et al., 2016), most of the indigenous women added salt or sugar to the children's food, considering that it improved the taste, and therefore the acceptance. In addition, indigenous mothers offered high-sugar commercial foods such as soft drinks and yogur to drink, as well as Hispanic women in other countries who provide their children with more sugary foods compared to other ethnic groups (Mennella et al., 2006). This study has some limitations, first of all the complexity of data collection due to the lack of standardized and validated instruments, coupled with language difficulties.

In conclusion, although the indigenous women had received nutritional guidance, it did not induce a correct infant feeding. This study suggests developing programs focused on indigenous Mexican populations to improve the nutritional status of children; Government interventions for minorities that respect cultural diversity, making proper use of available resources and food.

## **Declarations**

Ethics approval and consent to participate: IRB approval number is UGTO/CEI-2012013.

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Competing interests: Not applicable

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Authors' contributions. Conceptualization: LEVB; Methodology: LEVB; Analysis: CMC, LEVB; Investigation: AIRG; Writing - original draft: CMC, LEVB; Writing - review & editing: CMC; Supervision: LEVB

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## Tables

**Table 1**

Characteristics of the sample (n = 20)

	n (%)
<b>Education level (maximum completed)</b>	
No education	3 (15)
Grade school (up to 6 <sup>th</sup> grade)	7 (35)
Middle school (up to 9 <sup>th</sup> grade)	10 (50)
<b>Language most commonly spoken at home</b>	
Spanish	20 (100)
Indigenous language (Tzeltal)	20 (100)
<b>Employment of father</b>	
Agriculture	19 (95)
Driver	1 (5)
<b>Number of children under 5 years</b>	
One	6 (30)
Two	9 (45)
Three	5 (25)

**Table 2**

Breastfeeding (n = 20)

Characteristic	n (%)
<b>Breastfeeding at the time of the interview</b>	
Current	17 (85)
Absent	3 (15)
<b>Exclusive breastfeeding</b>	
1-2 months	12 (60)
3-4 months	6 (30)
5-6 months	2 (10)
<b>Perception of breastfeeding</b>	
Positive	18 (90)
Non-positive (only for avoid crying)	2 (10)
<b>Counselling</b>	
Received	12 (60)
Non-received	8 (40)
<b>Main reason for breastfeeding</b>	
Growth	11 (55)
Health/nutrition	5 (25)
Hygiene	1 (5)
Other	3 (15)
<b>In the early days, the baby drank:</b>	