

The initiation of complementary feeding among Qom indigenous people

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ABSTRACT

As of six months of life, breastfeeding no longer covers an infant's energy or micronutrient needs, so appropriate complementary feeding should be provided. The objective of this study was to assess the time and adequacy for introducing complementary feeding in a Qom/Toba population and analyze the sociocultural concepts of families regarding complementary feeding. Quantitative and qualitative data were collected by participant observation and semistructured surveys administered to mothers of 0-2 year old infants. Qom breastfeed their infants long term and on demand. Most infants have an adequate nutritional status and start complementary feeding at around 6 months old as per the local health center and international standards. However, mostly due to socioeconomic factors, foods chosen to complement breastfeeding have a relatively scarce nutritional value.

Key words: complementary feeding, breastfeeding, infant nutrition, indigenous peoples, Qom.

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INTRODUCTION

After the first six months of life, breastfeeding (BF) no longer covers an infant's energy and micronutrient needs; therefore, it is necessary to provide adequate complementary feeding (CF).^{1,2} Among low-income populations, CF is not optimal due to a lack of basic resources (adequate housing, access to potable water) and families physical and mental stress.³ This is the situation of most indigenous peoples in Argentina, especially those living in urban and peri-urban regions. In marginal situations, the quality of CF is usually lower than that of BF, CF is started too early or too late, and generally contributes to the substitution of BF.³

Qom (Toba) are indigenous peoples from the Great Chaco region of Argentina. Traditionally, these peoples have been nomad or semi-nomad hunter-gatherers.⁴ The disintegration of their traditional lifestyle and the deterioration of their native habitat have forced these groups to migrate from rural areas to peri-urban locations.⁵ Previous studies have indicated that Qom infants have a generally adequate growth over their first six months of life, but undergo growth failure over their second year of life.⁶ The proportion of malnourished infants peaks at 15 months old. The aim of the study was to evaluate the time and adequacy for introducing CF in a Qom/Toba population and analyze the sociocultural concepts of families regarding this issue.

POPULATION AND METHODS

This was a descriptive, qualitative-quantitative, cross-sectional study conducted between December 2012 and February 2013 in the Namqom neighborhood, located 11 km from the city of Formosa. The sociodemographic characteristics of the Namqom neighborhood are described in *Table 1*.

The sample was made up of n= 19 girls and n= 21 boys of Qom origin (2 were 0-4 months old, 8 were 5-9 months old, 9 were 10-14 months old, 14 were 15-19 months old, and 7 were 20-24 months old) and was considered representative of the community (confidence level= 95%). Participants were randomly selected from a group of 67 families taking part in a longitudinal study on child growth conducted by the Chaco Area Reproductive Ecology Program.* The protocol was approved by the Ethics Committee of the University of Pennsylvania (# 811200). Visits were conducted at the houses; during these visits, anthropometric data were recorded and a semistructured interview was performed regarding infant's feeding and health status (*Annex 1*). Interviews were done in Spanish because all participant mothers are bilingual. Height was measured to the nearest 0.5 cm

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* For additional information on the program: <http://valeggia.wordpress.com/the-chaco-area-reproductive-ecology-program/>

TABLE 1. Sociodemographic characteristics of the Namqom neighborhood population in the province of Formosa

Population size ^a	2500
Approximate number of families ^a	300
Approximate number of families with infants aged 0-2 years old ^a	100
Average number of births per woman (fertility rate) ^a	6.7
Average time between births (in months \pm SD) ^a	35.6 \pm 21.2
Interval mode between births (in months) ^a	21-33
Average duration of breastfeeding (in months \pm SD) ^a	24.3 \pm 11.2
Average birth weight (boys; in g \pm SD) ^a	3469 \pm 464
Average birth weight (girls; in g \pm SD) ^a	3275 \pm 513

a. Data not published, collected by the Chaco Area Reproductive Ecology Program.

using a portable infantometer SECA 210[®] with the infant in dorsosacral position. Body weight was measured using a digital pediatric scale (Health-O-Meter 549K[®], with a 10 g accuracy). All measurements were performed by the same person. The tables from the World Health Organization Child Growth Standards (2006)⁷ were used to classify infants as per their weight, height and age.

The participant observation method was used to complement qualitative data collection. Field and interview notes were analyzed following the grounded theory.⁸ Semistructured interviews were also conducted with six healthcare agents and nurses who work in the Namqom health center (CSN) and who are also members of the Qom community (see annexed survey).

RESULTS

Half of the infants had a birth weight of 2500 g to 3500 g; 16/40 had a birth weight of 3501 g to 3999 g, and 4/40 had a birth weight \geq 4000 g. The average birth weight was 3430 g (\pm 380) for boys and 3510 g (\pm 520) for girls.

Qom infants who participated in this study had an adequate nutritional status (Table 2). No cases of low weight were registered, and there was only one case of nutritional risk as per the body mass index (BMI) for their age. However, 5/35 were classified as having a low height, and 3/40 infants were considered obese.

Most infants were being breastfed at the time of the interview (33/40). Besides, 31/40 had started having cow's milk between 0 and 5 months old. Food chosen as the first substitutions of BF were strained rice soup (10/40), bread (8/40), *torta frita* (fried dough) (6/40) and puffed corn snacks" (5/40). Half of the participants started eating solid food between 5 and 7 months old.

When mothers were asked about who they had asked for advice regarding the time for introducing CF, 31/40 said that they had followed the CSN pieces of advice. The rest of the mothers followed cultural traditions encouraged by their own mothers, aunts or grandmothers. There does not seem to be a cultural consensus regarding the appropriate time to initiate CF. Apparently, there are two ideal moments: 1) following the eruption of the first set of teeth (approximately at 6 months old) "or otherwise they lose weight and teeth become decayed," or 2) at 2 or 3 months old "so that the baby eats most foods when he/she grows up." Foods reported as commonly used included apples, bananas, pumpkins, potatoes, and onions. Bread, *torta frita* and puffed corn snacks are culturally considered to make infants gain weight. Moreover, puffed corned snacks are chosen when children are sick "because they are light." We observed that some infants eat food collected from the municipal garbage dump close to the neighborhood, including *dulce de leche* (milk candy), yoghurt or cookies.

Based on the analysis of interviews and participant observation, it was seen that economic factors have a substantial weight at the time of choosing breast milk substitutes ("I can only buy yoghurt or more expensive stuff when we get child benefit" or "If we got some dough, we eat well; if we don't, we just have bread or a *guachito* stew").*

Based on the interviews with the CSN staff, it was stated that mothers are advised to supplement breast milk with potatoes (smashed), pumpkins, rice (soup) and, less frequently, fruits.

* Puffed corn snacks are ultra-processed snacks with high salt and fat content.

TABLE 2. Nutritional status of Qom infants who participated in the study as per different indicators

Nutritional indicators	Total	Male infants	Female infants
	n	n	n
<i>By weight/age</i>			
Overweight	6	1	5
Eutrophic	34	18	16
At risk of low weight	0	0	0
Low weight	0	0	0
<i>By height/age</i>			
Normal height	35	15	20
Low height	5	4	1
<i>By body mass index/age*</i>			
Obesity	3	0	3
Overweight	2	1	1
Adequate weight	19	11	8
Nutritional risk**	1	1	0
Acute malnutrition	0	0	0

* This category was used for infants older than 1 year old (n= 25).

** Body mass index between the 3rd and 10th percentiles.

They also indicated that, given that they are also part of the community, they understand the economic hardships that families go through and advise mothers to use easily accessible foods that can also be eaten by the whole family.

DISCUSSION

In general, the nutritional status of infants participating in this study was appropriate for their age, with a normal height and adequate weight for their height. These findings are probably related to the fact that BF is a deeply rooted cultural tradition, and mothers breastfeed on demand until their babies are approximately 3 years old.⁹ However, the quality of complementary feeding is not optimal. It was observed that the state of marginalization suffered by the Qom people has a direct impact on the quality of complementary feeding.

Based on the study limitations (e.g., the small sample size and the probable recall bias), it should be considered a pilot study. However, given the scarce data on infants' nutritional status and on complementary feeding among indigenous peoples in Argentina, we believe that this study constitutes a significant contribution to better understand the weaning process and health of these populations.

* Guachito: stew prepared with lots of water and few solid ingredients

CONCLUSION

BF is a highly prevalent and long term practice among the Namqom community living in peri-urban areas; in general, infants younger than 2 years old have an adequate nutritional status. Although most infants start CF at around 6 months old, the nutritional quality of such CF is suboptimal; socioeconomic factors have the greatest influence on such poor quality. ■

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Anexx 1

QUESTIONNAIRE AND SEMISTRUCTURED INTERVIEW CONDUCTED WITH THE MOTHERS OF INFANTS PARTICIPATING IN THIS STUDY

Date: / /

Infant's caregiver: Mother
Grandmother
Aunt
Other/s

Infant's date of birth: / /
Gender: F M

Infant's weight:kg

Who?
Height:..... cm.

Who lives with the infant? Mother
Father
Grandmother/grandfather
Siblings
Others

Mother's age:.....years.
How many children do you have?
Infant's birth order:
How many?.....
Who?

BREASTFEEDING

Do you breastfeed your child? YES
NO Did you breastfeed your child? YES Up to what age?.....months/years old.
NO

Have you considered weaning your child? YES Why?.....
NO

Has your child ever had any milk other than breast milk? YES Which type? Cow's milk Powder milk
NO

How old was your child when he/she started having other type of milk?.....days/months/years old.

Did you use a feeding bottle? YES NO

Does your child drink other fluids apart from breast milk? YES Which fluids?.....
NO

What container do you use to offer other fluids?

Feeding bottle Beaker
Glass/cup Spoon

COMPLEMENTARY FEEDING

What was the first food you offered your child?.....

How did you prepare it?.....

How old was your child?..... days/months/years old.

Why did you decide to give food to your child?.....

Who gave you information about how to feed your child?

Grandmother Doctor at the health center Others Who?

Anexx 2

INTERVIEW WITH THE NAMQOM HEALTH CENTER STAFF

Gender: F M Age.....years.

Profession.....

1. What do you advice at the health center regarding infant feeding?

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2. What do you personally advise?

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3. How did you raise your children?

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4. When is it common to start feeding an infant?

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5. What is the best food for infants? Which food makes them stronger?

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6. Why those and not others?

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7. When mothers visit the doctor, do they talk about what to feed infants?

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8. At home, who says how to raise the child?

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