

Breastfeeding in infants under two years old in a city in the Amazon Region

Amamentação em menores de dois anos em uma cidade da Região Amazônica

Lactancia en menores de dos años en una ciudad de la Región Amazónica

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Abstract

Objective: To analyze the duration of breastfeeding and the factors associated with total weaning of infants aged six to 23 months and 29 days living in the municipality of Cruzeiro do Sul, in the Brazilian Western Amazon.

Methods: A cross-sectional study conducted during the National Multi-Vaccination Campaign in 2016 and Against Influenza in 2017. The sample was estimated by clusters. The data was collected with the mothers or guardians of 679 infants who attended vaccination campaigns and answered a questionnaire. Kaplan-Meier survival analysis was used, and Cox regression was used for the factors associated with total weaning. A 5% significance level was considered for all statistical tests.

Results: Breastfeeding was practiced by 65.3% of the infants, whose mean age was 13.7 months (SD± 4.9 months). The mean total weaning time was 16.7 months (95% CI: 16.06 - 17.36) and the median of 22 months, which is the probability of duration of breastfeeding up to two years old in 49.7%. The factors associated with total weaning were previous breastfeeding experience for less than six months, not breastfeeding in the first hour of life, pacifier use and bottle-feeding.

Conclusion: The duration of breastfeeding was below the recommended. The factors associated with total weaning of infants between six and 23 months are related to previous maternal experience, early initiation of breastfeeding and the use of artificial nipples.

Resumo

Objetivo: Analisar a duração do aleitamento materno e os fatores associados ao desmame total de crianças de seis a 23 meses e 29 dias de idade residentes no município de Cruzeiro do Sul, na Amazônia Ocidental Brasileira.

Métodos: Estudo transversal, realizado durante a Campanha Nacional de Multivacinação em 2016 e Contra a Influenza em 2017. A amostra foi calculada por conglomerados. A coleta de dados foi efetuada com as mães ou os responsáveis de 679 crianças que compareceram às campanhas de vacinação e responderam a um questionário. Utilizou-se a análise de sobrevivência de Kaplan-Meier e, para os fatores associados ao desmame total, a regressão de Cox. Para todos os testes estatísticos, foi considerado um nível de significância de 5%.

Resultados: O aleitamento materno foi praticado por 65,3% das crianças, cuja média de idade foi de 13,7 meses (DP± 4,9 meses). O tempo médio de desmame total foi de 16,7 meses (IC95%: 16,06 - 17,36) e a mediana de 22 meses, sendo a probabilidade de tempo de aleitamento materno até dois anos em 49,7%. Os fatores associados ao desmame total foram o tempo da experiência anterior em amamentação menor que seis meses, não praticar o aleitamento materno na primeira hora de vida, uso de chupeta e mamadeira.

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Conclusão: A duração do aleitamento materno foi abaixo do recomendado. Os fatores associados ao desmame total de crianças entre 6 e 23 meses estão relacionados à experiência materna prévia, ao início precoce da prática de amamentação e ao uso de bicos artificiais.

Resumen

Objetivo: Analizar la duración de la lactancia materna y los factores asociados al destete total de niños de seis meses a 23 meses y 29 días de edad que viven en el municipio de Cruzeiro do Sul, en la Amazonía Occidental Brasileña.

Métodos: Estudio transversal, realizado durante la Campaña Nacional de Multivacunación en 2016 y Contra la Influenza en el 2017. La muestra fue calculada por conglomerados. La recopilación de datos se realizó con las madres o los responsables de 679 niños que asistieron a las campañas de vacunación y respondieron un cuestionario. Se utilizó el análisis de supervivencia de Kaplan-Meier y, para los factores asociados al destete total, la regresión de Cox. Para todas las pruebas estadísticas se consideró un nivel de significación del 5 %.

Resultados: La lactancia materna se practicó en el 65,3 % de los niños, cuyo promedio de edad fue de 13,7 meses ($DP \pm 4,9$ meses). El tiempo promedio de destete total fue de 16,7 meses (IC95 %: 16,06 - 17,36) y la mediana de 22 meses, con una probabilidad de tiempo de lactancia materna hasta los dos años del 49,7 %. Los factores asociados al destete total fueron el tiempo de una experiencia anterior de lactancia inferior a seis meses, no practicar la lactancia materna en la primera hora de vida, uso de chupete y de mamadera.

Conclusión: La duración de la lactancia materna estuvo por debajo de lo recomendado. Los factores asociados al destete total de niños entre 6 y 23 meses están relacionados a experiencias maternas previas, al inicio precoz de la práctica de la lactancia y al uso de tetinas artificiales.

Introduction

Prolonged breastfeeding reduces the risk of morbidity and mortality compared to breastfeeding for shorter periods or in infants who have never breastfed.⁽¹⁾ Benefits that remain until adulthood by reducing the risk of overweight and obesity,⁽¹⁾ besides improving the intelligence quotient index, which offers the individual a higher educational level.⁽²⁾ Prolonged breastfeeding can also benefit women, such as: prevention of breast and ovarian cancer,⁽¹⁾ increased gestational interval, less risk of developing diabetes and uterine cancer, and better quality of life.⁽³⁾ Therefore, breastfeeding is recommended for children up to two years old or older.^(3,4)

Despite many benefits, breastfeeding rates in Brazil up to two years old, according to national survey data, remained stable and below the recommended by the World Health Organization between 1986 and 2006, 24.5% and 23.3% respectively, with an increase in its prevalence (31.8%) from 2006 to 2013.⁽⁵⁾

The Northern region of Brazil maintains national prominence regarding the continuity of breastfeeding in the infant's first year of life, with a 63% probability of breastfeeding, according to the survey on the prevalence of breastfeeding in Brazilian capitals and the Federal District in 2008.⁽⁶⁾ The city of Cruzeiro do Sul (AC) followed this scenario with

a 62.7% probability of continued breastfeeding until the first year of life.⁽⁷⁾

Despite little depth, the national research conducted on the factors involved in the maintenance of breastfeeding for two years or more reveals as protective factors: the mother staying at home with the infant in the first six months of life, not living with a partner, not offering pacifiers and postponing the introduction of water and/or teas and other milks in the infant's diet.⁽⁸⁻¹⁰⁾ Not using pacifiers, older paternal age and multiparity were associated with breastfeeding up to 24 months in adolescent mothers.⁽¹¹⁾

Studies developed in Colombia and China reinforce this scenario by finding a negative association between breastfeeding and the following factors: women aged < 25 years, single, return to work before six months after delivery, indecision regarding the duration of breastfeeding, desire to interrupt breastfeeding at the infant's six months of life and early introduction of food. The positive association was evidenced among women who were housewives, with access to postpartum appointment or who received information about breastfeeding.^(12,13)

This research is relevant given differences between breastfeeding indicators in the same region of the country, the certainty that the establishment and maintenance of this practice are associated with social, economic, cultural, family and children

characteristics of each population^(14,15) and the little knowledge about this scenario in the Northern Region, especially in the municipality of Cruzeiro do Sul.

Thus, aligned with the Sustainable Development Goals⁽¹⁶⁾ and with the National Agenda of Priorities in Health Research,⁽¹⁷⁾ this study sought to analyze the duration of breastfeeding and the factors associated with total weaning of infants aged six to 23 months in a municipality in the Amazon Region.

Methods

This is an observational, cross-sectional, descriptive and exploratory study, conducted in the municipality of Cruzeiro do Sul, Acre (AC), located in the Brazilian Western Amazon Region. The data were collected in six Basic Health Units in the urban area and in three in the rural area.

Infants aged six to 23 months and 29 days who attended the National Multi-Vaccination Campaign in 2016 and the National Campaign Against Influenza in 2017, accompanied by their guardians, were assessed. Those whose guardians were unable to answer about the infant's breastfeeding history and those whose guardians were < 18 years old were excluded.

Sample size estimates were obtained based on 2,714 doses of vaccines applied in the National Polio Vaccination Campaign in 2015.⁽¹⁸⁾ A generic indicator value of 50% was used due to the lack of information on the percentages of breastfeeding for ages > 12 months. The sampling error was 5% for more or less and 95% confidence interval, design effect (deff) of 1.5 and the non-response rate was one every 10 approaches (10%). A sample of 770 infants from nine Basic Health Units was drawn after the adjustments made, with three units in a rural area.

The study adopted a cluster sampling with two-stage draw. Vaccination posts were drawn in the first stage and the infants who were in the vaccination queue of each post were systematically drawn in the second stage. Since the infants were not evenly dis-

tributed in the vaccination posts, they were drawn with probability proportional to the size of the clusters, that is, the draw fraction required to interview the guardians of about 49 infants in each post was estimated (minimum number of doses applied in 2015), to avoid health units being sampled more than once.⁽⁹⁾

The data were collected between September 3 and 30, 2016, on the "D" day and on the days before the "D" day, according to the days of campaign in the municipality. The interviews continued in the following vaccination campaign of the Brazilian Ministry of Health, "National Influenza Vaccination Campaign", for children aged six months and under five years. The collections began on April 2 and ended on June 16, 2017, according to the campaign period in the municipality. A list with the full name of the infants already interviewed in the first campaign in each Basic Health Unit was elaborated to avoid duplication of infants in the research in the second campaign. The interviews were conducted after the administration of vaccines in the infants and the questionnaire was filled out by a previously trained team. The research instrument was adapted and based on the questionnaire used in the II Breastfeeding Prevalence Survey in Brazilian capitals and in the Federal District by the Ministry of Health in 2008.⁽⁶⁾

The dependent variable was total weaning. The percentage of infants who abandoned breastfeeding before two years old was considered. The predictor variables evaluated were: area of residence, mother's age, marital status, mother's and father's schooling level, mother's occupation, family income, infant's age, gender, birth weight, gestational age at birth, bottle-feeding, pacifier use, type of delivery, parity, previous breastfeeding experience, duration of the previous breastfeeding experience, support from the infant's father to breastfeed and breastfeeding in the first hour of life. The written informed consent form (WICF) was signed by the mothers or guardians in the first campaign and used as a voucher to identify the infants who had already been interviewed.

The survival functions of each predictor variable were separately analyzed by the Kaplan-

Meier survival analysis models. The survival functions were estimated for each level of these variables and then compared using the Log Rank test (Mantel-Cox). Next, the Cox model (multivariate) was adjusted. For the model, the variables with 20% significance were selected in the univariate analysis. The variables without 5% significance were excluded one by one in order of significance (backward method). Cox's model assumes the existence of proportional risks, which was verified by Schoenfeld's waste-based test. A 5% significance level was used for all statistical tests. The measure of central tendency - median - was used to estimate the duration of breastfeeding. A survival analysis, which studies the time until the occurrence of an event (in this case, total weaning), was used to estimate total weaning, considering the censors (cases that did not experience the event during the analysis).

Statistical analyses were elaborated using the statistical software SPSS 20.0 and STATA 12. The parameters established by the WHO were adopted to evaluate the indicator of duration of breastfeeding with the following points: very bad (0-17 months), bad (18-20 months), good (21-22 months) or very good (23-24 months or more).⁽¹⁹⁾

The research was approved by the Research Ethics Committee of the Universidade Federal de São Paulo by the opinion number 1,624,216 (Certificate of Presentation of Ethical Appreciation: 57255616.2.0000.5505). The participants who agreed to participate signed the informed consent form in two copies.

Results

The information of 679 infants was analyzed. For the analyses among the variables of interest, the sample number varied according to the number of records with complete data. Among the interviewees, 614 were mothers and the others were the infants' guardians such as fathers, grandparents and others. The mothers' mean age was 26.6 years (SD \pm 6.3). We observed that 80.6% lived in the urban zone, 79.8% were married or lived with

their partner, 77.4% were housewives and only 33.6% had completed high school. Regarding the father's schooling, 34.3% showed similar schooling to the mothers'. A total of 54.7% had less than one minimum wage as family income. The mean age of the infants assessed was 13.7 months (SD \pm 4.9 months), 64.7% were between 12 and 23 months of age, 52.4% were female and 92.5% were born with adequate weight, while 84.5% were born at \geq 37 weeks of gestation. Pacifier use was $<$ 35%, but $>$ 70% were bottle-fed. Regarding obstetric data, 60.1% of the mothers were multiparous and 59.4% had their children vaginally. A total of 96.9% had breastfed their previous child, and 83.5% had breastfed the newborn child for six months or more.

Among the infants in the studied population, 88.2% had breastfed in the first hour of life. Partner support for breastfeeding was reported by 73.3% of the assessed women.

Figure 1 shows the survival function of breastfeeding. During the study, 65.3% of the infants were breastfeeding. Overall, the mean total weaning time was 16.7 months (95% CI: 16.06 - 17.36), that is, just over a year, with a median of 22 months. However, this estimate is underestimated, since 66.6% of the cases were censored, that is, they had not weaned. The probability of the infant being breastfed at the beginning of life was high (96%), but dropped to 68% at 12 months and 49.7% at 23 months.

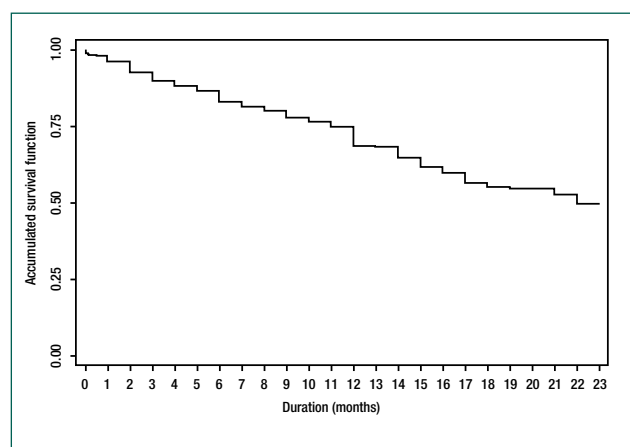


Figure 1. Probability of breastfeeding in infants under two years old

Then, the survival functions of total weaning were compared by maternal, paternal and infant characteristics and the mother's previous breastfeeding experience. We observed differences in weaning survival regarding the mother's schooling level ($p=0.031$), family income ($p=0.019$), duration of the previous breastfeeding experience ($p<0.001$), breastfeeding in the first hour of life ($p<0.001$), infant's birth weight ($p=0.005$), gestational age at birth ($p=0.021$), pacifier use ($p<0.001$) and bottle-feeding ($p<0.001$). The survival time of total weaning was shorter in infants whose mothers had higher education or more, with family income above three minimum wages, whose mothers had breastfed their previous child for less than six months, who did not breastfeed in the first hour of life, who were born with low birth weight, preterm (< 37 weeks), used pacifier and were bottle-fed. Table 1 shows the Initial and Final Cox regression model, having as predictor variables: area of residence, mother's age, mother's and father's schooling level, mother's occupation, family income, previous breastfeeding experience, breastfeeding in the first hour of life, partner support for breastfeeding, the infant's gender and weight, gestational age at birth, pacifier use and bottle-feeding (with 20% significance in the univariate analysis).

The following aspects were significant in the final model: previous breastfeeding experience, breastfed the previous child for less than six months ($p<0.001$), did not breastfeed in the first hour of life ($p=0.002$), pacifier use ($p<0.001$) and bottle-feeding ($p<0.001$) (Table 1). Thus, we identified that infants whose mothers breastfed the previous child for less than six months had 4.1 times higher risk of weaning than infants whose mothers breastfed the previous child for six months or more. We identified that infants who did not breastfeed in the first hour of life had 1.96 times higher risk of weaning than those who breastfed in the first hour of life. While infants who used pacifiers had 2.3 times higher risk of weaning than those who did not use it. Similarly, bottle-fed infants had 3.6 times higher risk of weaning than those who were not.

Table 1. Factors associated with total weaning in infants under two years old

Variables	Initial model		Final model	
	Ratio of risks	p-value	Ratio of risks	p-value
Area of residence				
Rural area	0.90 (0.50 - 1.61)	0.721	-	-
Urban area	1	-	1	-
Mother's age				
18 to 19 years	1.51 (0.62 - 3.65)	0.362	-	-
> 19 years	1	-	1	-
Family income		0.463		
< 1 minimum wage	1	-	1	-
1 to 2 minimum wages	0.90 (0.51 - 1.58)	0.720	-	-
≥ 3 minimum wages	1.43 (0.64 - 3.21)	0.384	-	-
Mother's schooling level		0.804		
Illiterate	0.27 (0.03 - 2.69)	0.264	-	-
Incomplete elementary school	0.75 (0.28 - 2.00)	0.567	-	-
Complete elementary school/ incomplete high school	0.67 (0.26 - 1.71)	0.396	-	-
Complete high school	0.74 (0.34 - 1.60)	0.441	-	-
Higher education or more	1	-	1	-
Father's schooling level		0.427		
Illiterate	1.76 (0.55 - 5.62)	0.342	-	-
Incomplete elementary school	1.17 (0.52 - 2.63)	0.698	-	-
Complete elementary school/ incomplete high school	0.62 (0.27 - 1.44)	0.269	-	-
Complete high school	0.91 (0.46 - 1.80)	0.795	-	-
Higher education or more	1	-	1	-
Mother's occupation		0.328		
Housewife	1	-	1	-
Works away from home	1.05 (0.55 - 2.02)	0.880		
Studies	1.86 (0.80 - 4.29)	0.147		
Duration of the previous breastfeeding experience		<0.001		<0.001
Breastfed the previous child for six months or more	1	-	1	-
Primiparous	0.77 (0.44 - 1.37)	0.379	0.72 (0.50 - 1.06)	0.095
Did not breastfeed the previous child	1.26 (0.32 - 5.04)	0.740	0.79 (0.28 - 2.21)	0.649
Breastfed the previous child for less than six months	4.35 (2.33 - 8.11)	0.000	4.09 (2.60 - 6.43)	<0.001
Breastfeeding in the first hour of life				
No	2.14 (1.18 - 3.88)	0.012	1.96 (1.28 - 3.00)	0.002
Yes	1	-	1	-
Partner support for breastfeeding				
No	0.86 (0.50 - 1.49)	0.600	-	-
Yes	1	-	1	-
Gender				
Male	0.98 (0.63 - 1.51)	0.912	-	-
Female	1	-	1	-
Birth weight				
Low weight (< 2.500 g)	1.98 (0.84 - 4.65)	0.118	-	-
Adequate weight (≥ 2.500 g)	1	-	1	-
Gestational age at birth		0.607		
Preterm (< 37 weeks)	0.69 (0.34 - 1.43)	0.321	-	-
Post-term (≥ 42 weeks)	0.89 (0.11 - 7.05)	0.911	-	-
Full term	1	-	1	-
Pacifier use				
Yes	2.54 (1.53 - 4.21)	0.000	2.34 (1.66 - 3.29)	<0.001
No	1	-	1	-
Bottle-feeding				
Yes	3.58 (1.78 - 7.21)	0.000	3.55 (2.01 - 6.27)	<0.001
No	1	-	1	-

Discussion

The data from the municipality of Cruzeiro do Sul (AC) revealed that complementary breastfeeding up to two years old is below the recommended, with a prevalence of 65.3%. However, the median of 22 months is within the parameter recommended by the World Health Organization (WHO), which classifies as “good”.⁽¹⁹⁾

The longer time for total weaning, observed in infants from Cruzeiro do Sul, agrees with the results of a study on breastfeeding, published in 2016. When evaluating the prevalence of breastfeeding in countries regarding their income, that study identified that the prevalence of breastfeeding at 12 months decreased 10% each time the gross domestic product per capita doubled,⁽¹⁾ which is consistent with the reality of this population that shows a low income and a greater tendency to prolong breastfeeding.

The findings of the II Breastfeeding Prevalence Survey (IIPPAM) reinforce the results of our study by showing that the North (76.9%) was the region with the highest prevalence of breastfeeding compared to the South (49.5%) and Southeast (51.4%) regions, which are considered more developed.⁽⁶⁾ However, research conducted in Paraná, in the city of Guarapuava (21.1%),⁽⁹⁾ and São Paulo, in the municipality of Itupeva (61.9%),⁽²⁰⁾ showed lower and similar rates, respectively, of breastfeeding in infants under two years old compared to the population we studied.

We observed lower results of prevalence of breastfeeding compared to our study, but with different populations, in this case, Indigenous people from zero to two years old from the municipalities of Cruzeiro do Sul (AC) and Mâncio Lima (AC), in 2016, with 60.6% breastfeeding rate and mean weaning of 11.4 months. One of the issues observed was the culture of stopping breastfeeding when the infant turns one year old.⁽²¹⁾

A case-control study developed with a cohort of mothers who had their children in the two largest public maternity hospitals in the municipality of João Pessoa (Paraíba) showed a median duration of breastfeeding equal to 15 months (95% CI: 10.7

- 19.2 months),⁽¹⁰⁾ which is lower than the result identified in our study.

Similarly, another study on infants under two years old, assisted in Basic Health Units in Recife (Pernambuco), identified that the duration of breastfeeding was below the recommendation by the WHO. The median breastfeeding was 182.52 days, that is, approximately six months.⁽²²⁾

Studies on continued breastfeeding in other countries have also revealed low breastfeeding rates compared to the data in our study. In Puerto Carreño, Colombia, the prevalence of continued breastfeeding was 26.1%, with a mean weaning of 10.9 months.⁽¹²⁾ A cohort study in the province of Sichuan, China, showed a shorter duration of breastfeeding of only eight months.⁽¹³⁾ In Paraguay, the breastfeeding rate was 48% in infants under two years old who attended the Maternal and Child Hospital of Fernando de la Mora.⁽²³⁾

Regarding the factors associated with total weaning, we identified that infants whose mothers breastfed for less than six months had a higher risk of weaning. Different from our findings, a cohort study conducted in Porto Alegre (RS), with mothers who breastfed for two years or more, found no statistical significance between the duration of previous breastfeeding and total weaning.⁽⁸⁾

Health teams tend to assume that women with previous breastfeeding experience have less need for support and guidance for breastfeeding with a subsequent child.⁽²⁴⁾ However, women who have breastfed for a short period in previous pregnancies must be identified, since analyzing their self-efficacy for breastfeeding from this experience can help to promote and protect healthy eating practice of the current child and the next children.

Regarding practices related to the infants, we identified the absence of breastfeeding in the first hour of life as a factor associated with weaning before the age of two.

Although this correlation is not usually analyzed in studies on factors associated with total weaning in Brazil and other countries,⁽²⁵⁾ a Chinese study conducted in Hong Kong showed a similar result, showing that infants breastfed

in the first hour of life had a longer duration of breastfeeding.⁽²⁶⁾ Confirming these findings, a cohort study conducted in the capital of Acre identified that the absence of breastfeeding in the first hour of life was associated with early weaning.⁽²⁷⁾

One of the aspects for this practice to be little performed is the routine imposed by health care providers inside the delivery room regarding the first care of the newborn, which delays mother and child contact and breastfeeding in the first hour of life.

The knowledge of mothers about the importance of breastfeeding in the first hour of life regarding the benefits for her and the newborn can be a precondition to understand that breastfeeding up to two years old or more is essential and adhering to this posture. Another reason for weaning may be the lack of interest in breastfeeding the newborn, which happens since the first hour of birth and may reflect in the future on the maintenance of breastfeeding for prolonged periods.

Breastfeeding in the first hour of life is associated with the mother's schooling level of ≥ 12 years, receiving of prenatal guidance on the importance of this practice and the appropriate feeding technique, the permanence of mother and child in the same room and delivery performed at a baby-friendly hospital.⁽²⁸⁾

Regarding the factors related to weaning, in our study, infants with a bottle-feeding habit showed an almost four times higher risk of stopping breastfeeding compared to those who were not bottle-fed.

A study in Barra Mansa (Rio de Janeiro) identified a similar result regarding bottle-feeding and total weaning, with a higher prevalence of stopping breastfeeding in bottle-fed infants. According to the authors, the misinterpretation of the newborn's crying can lead to artificial breastfeeding, which causes a longer interval between feedings and reduces breast sucking stimulus, consequently reducing milk production.⁽²⁹⁾

Although systematic studies on the determinants of breastfeeding did not identify an asso-

ciation between bottle-feeding and total weaning,^(25,30) bottle-feeding must not be recommended because it is a source of contamination and can cause "nipple confusion", due to the difference in the suction pattern required for milk extraction from the breast and the bottle. In such cases, it is common for the newborn to start breastfeeding in the mother's breast, but to leave after a few seconds and cry.⁽³⁾

Another problem in bottle-feeding is the advertising of infant formulas, which shows these products as a way to administer breast milk substitutes. The supply of artificial nipples increases due to the availability of formulas for sale and the distribution of free samples, besides opposing the Brazilian Standard for Marketing of Infant Foods (NBCAL).⁽³¹⁾

The population of Cruzeiro do Sul showed association between total weaning and pacifier use. Studies conducted in two other Brazilian municipalities, Porto Alegre in Rio Grande do Sul⁽⁸⁾ and Barra Mansa in Rio de Janeiro,⁽²⁹⁾ corroborate our finding by indicating that infants who did not use the pacifier were three times more likely to maintain breastfeeding until two years old.

A study conducted in Itupeva (São Paulo) emphasizes that the prevalence of pacifier use and its negative effects for the maintenance of breastfeeding may relate to the cultural issue of this practice and that the mechanisms associated with weaning are not yet fully explained.⁽²⁰⁾

In this context, a systematic review to synthesize the information on the factors associated with the maintenance of breastfeeding for 12 months or more also showed that pacifier use negatively interfered in the maintenance of breastfeeding in the period evaluated.⁽²⁵⁾

However, the American Academy of Pediatrics updated its evidence on sleep and sleeping environment safety when discussing sudden infant death syndrome and other sleep-related infant deaths, recommending the use of pacifier to prevent this outcome.⁽³²⁾ The basis of this guideline is questionable, since the maintenance of the airways by use of pacifier is not a guarantee during sleeping. In this

sense, the only recommendation adopted to prevent the infant's sudden death in Brazil is the supine position of the newborn.⁽³³⁾

One of the explanations for total weaning and pacifier use may be associated with increased breastfeeding interval and the infant's lack of interest in this practice, which causes abandonment of breastfeeding before two years old. Mothers who do not offer the pacifier to their children, despite the pressure to offer it, may be more informed and sensitized to good practices related to the infant's health.⁽⁸⁾

The external validity of this research can be evaluated by the similar profile of the sample studied with data from the Live Birth Information System (Sinasc) in 2016 and 2017 for the municipality of Cruzeiro do Sul. Of the children studied, 59.4% were born by vaginal delivery versus 54.1% and 53.9% of the reference population (Sinasc), respectively.⁽³⁴⁾ Regarding weight, 92.4% were born with adequate weight versus 92.2% and 92% of the reference population (Sinasc).⁽³⁴⁾ Regarding the mothers' data, 79.9% were married or lived with a partner versus 79.1% and 79% of the reference population (Sinasc).⁽³⁴⁾

One limitation of the study was the use of retrospective data to evaluate practices related to breastfeeding, including breastfeeding in the first hour of life, which may cause overestimation of some responses, despite being an approach recommended by the WHO.⁽⁴⁾

Conclusion

The data on breastfeeding of the evaluated infants under two years old evidenced that the duration of breastfeeding was "good", according to the WHO classification. The duration of breastfeeding was below the recommended, with 65.3%, with a mean age of 13.7 months, were breastfeeding. The mean time of total weaning was 16.7 months, with a median of 22 months. The probability of the infant being breastfed at the beginning of life was high (96%), but dropped to 68% at 12 months and 49.7% at 23 months. The following factors were

associated with total weaning: previous breastfeeding experience of less than six months, the infant has not been breastfed in the first hour of life, pacifier use and bottle-feeding. The recognition of these factors by health care providers, especially nurses, who are present during reproductive planning, pregnancy, childbirth, puerperium and child follow-up in childcare consultations, helps to early detect infants at risk of weaning before two years old, with greater attention to women who previously breastfed for less than six months. Thus, proposing practices that promote breastfeeding in the first hour of life, with improvements in routines in the delivery room, as well as counseling and surveillance regarding bottle-feeding and pacifier use, thus promoting the maintenance of breastfeeding for two years or more and, consequently, improving the quality of life of the mother, child, family and society.

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Collaborations

Maciel VBS, Abuchaim ESV, Maia RRP, Coca KP, Marcacine KO, Abrão ACFV declare that they participated in the design and project, analysis and interpretation of the data, writing of the article, critical review of the relevant content and final approval of the version to be published.

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