

Breastfeeding until the sixth month of life in municipalities in the Parana Mothers Network

Aleitamento materno até o sexto mês de vida em municípios da Rede Mãe Paranaense Lactancia materna hasta el sexto mes de vida en los municipios de la Red Madres de Paraná

Marlene Pires Baier¹, Ana Paula Contiero Toninato¹, Eliana Roldão dos Santos Nonose¹¹, Adriana Zilly¹, Helder Ferreira¹, Rosane Meire Munhak da Silva¹, Kara

¹Universidade Estadual do Oeste do Paraná, Foz do Iguaçu, PR, Brazil; ¹¹Hospital Estadual do Oeste do Paraná, Foz do Iguaçu, PR, Brazil

ABSTRACT

Objective: to evaluate the prevalence of breastfeeding in municipalities of the Paraná Mothers Network and to identify factors related to the practice until the child's sixth month of life. **Method:** this quantitative, exploratory, prospective study of 280 lactating mothers was conducted between July 2017 and June 2018 using questionnaires applied at the maternity hospital 24 hours postpartum and during home visits at six months of the child's life. **Results:** in the sixth month, 7.9% used breastfeeding exclusively, 38.2%, predominantly and 30.7%, a mix. Childcare appointments were associated with breastfeeding, while returning to work was identified as the main difficulty in continuing breastfeeding. **Conclusion:** the prevalence of exclusive breastfeeding was lower than recommended, and it is essential to plan actions to promote and protect breastfeeding through social and family support networks, and the multidisciplinary team.

Descriptors: Breast Feeding; Child Health; Public Health; Nursing.

RESUMO

Objetivo: avaliar a prevalência do aleitamento materno em municípios da Rede Mãe Paranaense e identificar fatores relacionados a sua prática até o sexto mês de vida da criança. **Método:** estudo exploratório, prospectivo de abordagem quantitativa, com 280 lactantes, realizada entre julho de 2017 e junho de 2018, com aplicação de questionários na maternidade, 24 horas pós-parto e durante visita domiciliar aos 6 meses de vida da criança. **Resultados:** o aleitamento materno no sexto mês foi 7,9% exclusivo, 38,2% predominante e 30,7% misto. As consultas de puericultura estiveram associadas com o aleitamento materno, e o retorno ao trabalho foi apontado como a principal dificuldade para continuidade da amamentação. **Conclusão:** a prevalência do aleitamento materno exclusivo está aquém do preconizado, sendo fundamental o planejamento de ações de promoção e proteção à amamentação por meio de uma rede de apoio social, familiar e da equipe multiprofissional. **Descritores:** Aleitamento Materno; Saúde da Criança; Saúde Pública; Enfermagem.

RESUMEN

Objetivo: evaluar la prevalencia de la lactancia materna en los municipios de la Red de Madres de Paraná e identificar factores relacionados con la práctica hasta el sexto mes de vida del niño. **Método**: este estudio cuantitativo, exploratorio y prospectivo de 280 madres lactantes se realizó entre julio de 2017 y junio de 2018 mediante cuestionarios aplicados en la maternidad 24 horas posparto y durante las visitas domiciliarias a los seis meses de vida del niño. **Resultados:** en el sexto mes el 7,9% utilizó lactancia materna exclusiva, el 38,2% predominantemente y el 30,7% mixta. Las citas de cuidado infantil se asociaron con la lactancia materna, mientras que el regreso al trabajo se identificó como la principal dificultad para continuar con la lactancia. **Conclusión:** la prevalencia de la lactancia materna exclusiva fue menor a la recomendada, y es fundamental planificar acciones para promover y proteger la lactancia materna a través de las redes de apoyo social, familiar y el equipo multidisciplinario. **Descriptores:** Lactancia Materna; Salud de los Niños; Salud Pública; Enfermería.

INTRODUCTION

Breast milk is recognized as the best source of food for children, with the necessary nutrients for child growth and development, in addition to protecting against infections, reducing the occurrence of type 2 diabetes and of obesity, and may also influence intelligence. For lactating women, it offers protection against breast and ovarian cancer and type 2 diabetes¹.

At optimal levels, breastfeeding has the potential to prevent 823,000 deaths annually for children under five years old and 20,000 deaths due to breast cancer¹. Considering this, the World Health Organization (WHO) and the Ministry of Health (MoH) recommend Exclusive Breastfeeding (EBF), without adding liquids or food until the child's sixth month of life, which can be continued up to two years of life or more, along with complementary food^{2,3}.

Preliminary data from the National Study of Child Food and Nutrition (*Estudo Nacional de Alimentação e Nutrição Infantil*, ENANI-2019) show that the number of children exclusively breastfed up to six months of life in Brazil increased, and that the prevalence of EBF was 45.7%, with a higher frequency in the South (53.1%) and lower in the Northeast (38.0%)⁴.

Acknowledgments to the Conselho Nacional de Desenvolvimento Científico e Tecnológico – CNPq, Brazil. Process #407508/2016-3 Corresponding author: Eliana Roldão dos Santos Nonose. E-mail: eliananonose@hotmail.com

Responsible Editor: Juliana Amaral Prata



Research Article Artigo de Pesquisa Artículo de Investigación

DOI: http://dx.doi.org/10.12957/reuerj.2020.51623

The practice of Breastfeeding (BF) can be determined by individual factors related to newborns, mothers and families, even contextual determinants such as the socioeconomic reality, training of the health professionals, and public services and policies, being a multi-factorial process, impregnated by ideologies and cultural values⁵.

It is relevant to know the factors that can contribute to the success of breastfeeding. A systematic review of epidemiological studies conducted in Brazil found 36 factors associated with EBF, with emphasis on better sociodemographic conditions, absence of maternal work, and not using pacifiers⁶.

In this context, the promotion, protection and support for BF are actions that must be included in the strategic axis of the National Policy for Comprehensive Child Health Care (*Política Nacional de Atenção Integral à Saúde da Criança*, PNAISC) to reinforce and encourage BF⁷. Consistent with efforts to promote EBF and reduce child mortality, Brazil is a signatory to the Sustainable Development Goals⁸.

In Paraná, in order to reduce maternal and child morbidity and mortality, the Paraná Mothers Network (*Rede Mãe Paranaense*, RMP) was implemented in 2012, which proposes the organization of maternal and child care, with support and promotion of BF^{9,10}. Studies prior to implementing the Network identified the prevalence of EBF between 30.0% and 46.1% in children under six months old^{11,12}.

Thus, knowing the prevalence of BF after implementing RMP is important, considering the need to evaluate the actions and contributions for the promotion and protection of breastfeeding, in the search to improve maternal and child health indicators.

In response to the questions: "What is the prevalence and how does breastfeeding occur in children under six months old? and What factors contribute with or hinder breastfeeding after RMP?", this study aimed to assess the prevalence of BF in RMP municipalities and to identify factors related to its practice until the child's sixth month of life.

METHOD

An exploratory, prospective and quantitative study conducted in the ninth Health Region of Paraná, inserted in RMP. This health region is composed of nine municipalities, located on the border with Paraguay and Argentina, with an estimated population of 390,220 inhabitants¹³.

For sample calculation, the number of births that took place in 2016 in the municipalities of the study was considered, which was a total of 6,317, the following being then considered: N (number of elements) = size of the population; n (number of elements) = sample size; n0 = a first approximation to the sample size; and E0 = tolerable sampling error, using the following formulas¹⁴:

- n0 = 1 / (E0)2. 0.05 = 400
- n = N . n0 / N + n0

A 5% error margin and a 95 confidence level were considered. A safety margin of 10% was defined, given that losses in data collection could occur.

The research was carried out in two stages: in the first there were 397 puerperal participants and, in the second, 280, since it was not possible to locate all the participants for the home visit, due to phone number or address change, and to unsuccessful contact after three attempts.

The puerperal women who delivered in the maternity wards during the study period were included, regardless of maternal age; without complications and/or problems during delivery or the puerperium that could prevent their participation. Puerperal women with premature babies were also included; thus, there were participants with children who were born at 33 weeks, this being the lowest gestational age, since children with a lower gestational age were referred to intensive and/or intermediate care units.

The researchers excluded puerperal women with complications and/or mental health problems described in the medical record; those living abroad, considering the difficulties in carrying out home visits in another country; and puerperal women with their newborns hospitalized in intensive care.

Data was collected by Nursing students and graduates in public health, previously trained by nurse researchers, with experience in maternal and child health.

In the first stage, the search for participants was carried out in three hospital institutions, located in different municipalities, which are a reference for the care of habitual, intermediate and high risk pregnancies. It took place in the rooming-in sector, in the postpartum period, between 24 and 48 hours after the child's birth, in order to establish a first contact with the puerperal woman and checking her availability for home visits at six months of the baby's life.



Research Article Artigo de Pesquisa Artículo de Investigación

DOI: http://dx.doi.org/10.12957/reuerj.2020.51623

The purposes of the research were presented and, after signing the Free and Informed Consent Form (FICF), a structured questionnaire was applied, which was previously constructed and validated by specialists, with variables such as: i) sociodemographic information: address/telephone number; age; family income; ethnicity; maternal schooling; marital status, and ii) obstetric/neonatal variables: number of previous pregnancies; number of prenatal appointments; type of delivery; gestational age; birth weight. The information was confirmed by checking the medical records and the pregnant woman's health card.

The second stage took place approximately six months after the child's birth, by means of a home visit scheduled by a telephone call. Two members of the research team went to the participant's residence to apply the second part of the questionnaire, with the following variables: duration of EBF; type of breastfeeding until the sixth month of life; age of introduction of food/teas and/or water; home visit by the health team; evaluation of breastfeeding by health professionals; guidelines received on BF. Although other family members were present at the house, they did not participate.

It is noted that the six-month analysis period was considered in view of the WHO recommendation for maintaining EBF until that period (for this research, this period was considered approximate).

The type of breastfeeding provided to the child up to the sixth month of life was classified as EBF when only breast milk was offered; as Predominant Breastfeeding when, in addition to breast milk, teas, juices, and water were also offered to the child; as Mixed Breastfeeding, when the child received breast milk and other types of milk; and as Artificial Milk, when this product was offered³.

The selected and collected variables were typed and classified according to the indicators in the literature, being related to the contribution of the sociodemographic, obstetric and follow-up factors of primary care.

For data analysis, a descriptive analysis was performed and the Chi-square test was used, complemented by the analysis of the adjusted residues, with a significance level of 5%, in order to verify the association between the dependent variable (type of breastfeeding) and the other independent variables, using the XLStat2014[®] program.

This study is part of a larger project entitled "The Paraná Mothers Network from the perspective of the users: caring for women in prenatal care, childbirth and puerperium and for the child", which was submitted to and approved by the Research Ethics Committee of the Londrina State University, under approval number 2,053,304. It should be noted that, for puerperal women under the age of 18, a responsible adult accompanying the women authorized their participation and signed the FICF.

RESULTS

A total of 280 lactating women participated in the study with the following sociodemographic and obstetric/neonatal variables, according to the children's food consumption, shown in Table 1.

There are 197 participants (70.3%) in the age group between 20 and 24 years old, 152 (54.3%) of white ethnicity, and 195 (69.6%) with more than eight years of study. Almost all, 257 (91.8%), have a partner, 126 (45%) have a family income of one to two minimum wages, and just over half of the participants, 147 (52.5%), do not have any paid activity.

The prevalence of EBF at the child's sixth month of life was 22 (7.9%), and 107 (38.2%) for predominant breastfeeding, while 86 (30.7%) were on mixed breastfeeding and 65 (23.2%) received only artificial milk.

Although statistically significant associations were not identified, it is noted that the largest proportion of children in BF, without other types of milk, up to the sixth month of life, corresponded to mothers under the age of 19, whiteskinned, with schooling of up to eight years, with a partner, a monthly income between one and two minimum wages, and most without any paid work. There were no statistical associations for the obstetric/neonatal variables, but the highest prevalence of breastfeeding occurred for primiparous women, who underwent vaginal delivery, with at least three prenatal appointments, babies born full-term (37-41 weeks) or post-term (\geq 42 weeks), and underweight (\leq 2,499 g) or adequate weight (2,500 g-3,999 g).

Table 2 shows the health care and follow-up variables of the women and children, according to the type of breastfeeding offered to the child in the sixth month of life.

Almost half of the women reported difficulties in breastfeeding, which culminated in weaning, with the prevalence of EBF and Predominant Breastfeeding being significantly lower up to the sixth month of life for these women when compared to those who did not report problems in maintaining breastfeeding. For the other health care and follow-up variables, there was statistical significance for childcare consultations, where those who went to eight or more appointments had a higher prevalence of predominant breastfeeding.



Research Article Artigo de Pesquisa Artículo de Investigación

Variables	*EBF and			xed	Artific	ial Milk	
	Predominant		Breastfeeding		(n:	=65)	**p value
	(n= n	129) %	n (n:	=86) %		%	•
Age		70		70	n	70	
≤ 19 years old	25	55.6	8	17.8	12	26.7	
20 to 34 years old	84	42.6	68	34.5	45	22.8	0.2247
≥35 years old	20	52.6	10	26.3	8	22.0	0.22.77
Ethnicity	_0	52.0	10	20.5	0	21.1	
White	68	52.7	48	55.8	36	55.4	
Brown/Black	60	48.0	38	30.4	27	21.6	0.4790
Other/No record	1.00	33.3	0	0.0	2	66.7	
Schooling	1.00	55.5	0	0.0	2	00.7	
≤ 8 years	43	50.6	23	27.1	19	22.4	0.5739
9 or more	86	44.1	63	32.3	46	23.6	
Marital status	20		55	52.5	10	20.0	
Has a partner	120	46.7	80	31.1	57	22.2	0.4331
No partner	9	39.1	6	26.1	8	34.8	
Occupation	J	20.1	5		0	2 1.0	
Paid	52	39.1	45	33.8	36	27.1	0.0790
Not paid	77	52.4	41	27.9	29	19.7	
Family income	,,						
< 1 wage	23	44.2	14	26.9	15	28.8	
1 to 2 wages	63	50.0	38	30.2	25	19.8	0.9326
2 to 3 wages	29	43.9	22	33.3	15	22.7	
≥ 4 wages	11	37.9	10	34.5	8	27.6	
Did not inform	3	42.9	2	28.6	2	28.6	
Type of delivery							
Vaginal	67	46.5	50	34.7	27	18.7	0.1281
C-section	62	45.6	36	26.5	38	27.9	
Parity							
First	52	49.1	29	27.4	25	23.6	
Second	38	43.7	31	35.6	18	20.7	0.5850
Third	22	44.9	13	26.5	14	28.6	
Fourth or more	17	44.7	13	34.2	8	21.1	
Prenatal appointments							
0 to 2	0	0.0	5	71.4	2	28.6	
3 to 5	21	55.3	9	23.7	8	21.1	0.1371
6 or more	108	45.9	72	30.9	55	23.2	
Gestational age							
≤ 36 weeks	4	21.05	9	47.4	6	31.6	
37 to 41 weeks	122	47.64	76	29.9	57	22.4	0.3243
≥ 42 weeks	3	50.00	1	16.7	2	33.3	
Birth weight							
≤ 2.499 g	10	58.8	1	5.9	6	35.3	
2.500 g to 3.999 g	110	46.2	78	32.6	50	21.2	0.1881
≥ 4.000 g	9	36.0	7	28.0	9	36.0	

Table 1: Sociodemographic, neonatal and obstetric variables of the women according to the type of breastfeeding offered to the child in the sixth month of life (n=280). Foz do Iguaçu, PR, Brazil, 2018.

*Exclusive Breastfeeding, **Chi-square test; p-value<0.05

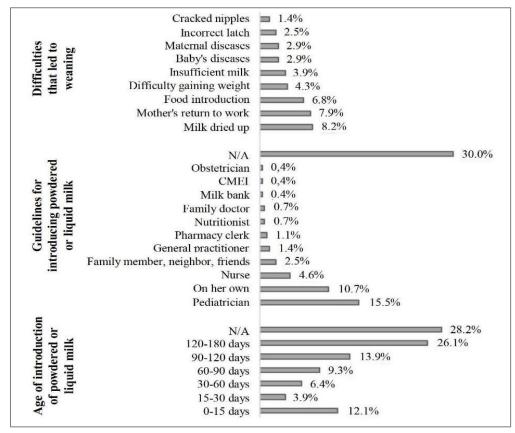


Table 2: Health care and follow-up variables of the women and children, according to the type of breastfeeding offered to the child in the sixth month of life (n=280). Foz do Iguaçu, PR, Brazil, 2018.

Variables		*EBF and Predominant (n=129)		Mixed Feeding (n=86)		Artificial Milk (n=65)		**p value
		n	%	n	%	n	%	
Home visit	Yes	35	39.3	31	34.8	23	25.8	0.3017
	No	94	49.2	55	28.8	42	22	
Breastfeeding	Yes	63	50	38	30.2	25	19.8	0.477
assessment (n=268)	No	62	43.7	44	31	36	25.3	
Difficulties leading to	Yes	13	12.7	32	31.4	57	55.9	0.0001
weaning	No	116	65.2	54	30.3	8	4.5	
Help to overcome	Yes	2	7.4	6	22.2	19	70.4	0.2039
difficulties (n=102)	No	11	14.7	26	34.7	38	50.7	
Guidance on food	Yes	100	49.7	56	27.9	45	22.4	0.1331
introduction (n=264)	No	23	36.5	25	39.7	15	23.8	
Childcare	One	8	25	14	43.7	10	31.2	
	Two	11	40.7	14	51.8	2	7.4	
	Three	13	40.6	16	50	3	9.4	
	Four	9	27.3	10	30.3	14	42.4	0.0002
	Five	19	51.3	7	18.9	11	29.7	
	Six	15	48.4	11	35.5	5	16.1	
	Seven	25	54.4	8	17.4	13	28.3	
	Eight or more	15	75	2	10	3	15	

*Exclusive Breastfeeding, **Chi-square test

More than half of the women had already introduced artificial milk by the child's sixth month of life, and 45.7% offered powdered or liquid milk at four months. The professional most mentioned for the introduction of artificial milk was the pediatrician (15.3%). The reduction in milk production and the return to work were the difficulties most reported that led to weaning (Figure 1).



*CMEI: Centro Municipal de Educação Infantil (Municipal Center for Early Education).

FIGURE 1: Difficulties which led to early weaning and to the introduction of artificial milk (n=280). Foz do Iguaçu, PR, Brazil, 2018.



As for the introduction of tea or water before six months, 59.2% had already offered in the fourth month and 32.8% from four to six months of life. The main reason reported was believing that the baby was thirsty and due to food introduction.

DISCUSSION

The results of this study showed that less than 10% of the children were exclusively breastfed until their sixth month of life, with this prevalence being considered unsatisfactory according to the WHO³ and below other studies carried out in Brazil that showed EBF prevalence values from 20% to 36.6%, according to a national survey that evaluated the trend of BF in the last 30 years in the country^{15,16}.

Regarding the predominant breastfeeding rates, added to EBF, nearly half of the children were receiving breast milk, corroborating the findings in the rest of the country, which indicated a prevalence of 50%^{15,16}.

Although in Brazil progress has been made towards longer duration of BF due to the implementation of government policies, it is still not enough. A meta-analysis demonstrated that a 10% increase in the duration of EBF has the potential to reduce costs to the health system and child morbidity, in addition to cognitive gains for the child in adulthood, with the potential to save the life of nearly six million children a year worldwide¹⁷.

With regard to the sociodemographic variables, no statistical associations were found with the prevalence of breastfeeding, although some studies point to the socioeconomic gradient as with potential to influence the health conditions of the population, which may promote or hinder breastfeeding according to income, schooling, maternal age and ethnicity^{5,6,16}.

The highest proportion of children in breastfeeding up to their sixth month of life corresponded to mothers under the age of 19 years old. However, results of other research studies show that the early interruption of EBF and the inclusion of artificial foods in the child's diet are common practices among adolescent mothers¹⁷⁻¹⁹.

When it comes to schooling, mothers with less than eight years of study had a higher proportion of breastfeeding, a result that is different from other surveys that point to longer breastfeeding among mothers with higher schooling levels^{17,19,20}.

Family income was also not associated with breastfeeding, unlike other studies in which adherence to breastfeeding responded positively to better family income^{6,16,20}. However, there was a higher prevalence among those who have unpaid occupations, converging with other findings where women who do not work outside the house breastfeed for a longer period^{16,20}.

The presence of a partner proved to be important for a higher prevalence of BF. A number of studies indicate that partner support in breastfeeding is directly related to the maintenance and duration of breastfeeding^{6,20}.

As for the obstetric variables, there was no association with breastfeeding, although there was greater predominance among primiparous women, with vaginal delivery and at least three prenatal appointments. The literature indicates that a possible explanation for the association of parity with EBF is the role of previous maternal experience with breastfeeding, as women with previous experience are more likely to have EBF in the six months after birth^{15,20}. Regarding the type of delivery, C-section was shown to be associated with a lower prevalence of BF in one study and can be related to other risk factors , such as not being born in a maternity hospital with the Child-Friendly Hospital Initiative and not breastfeeding in the first hour of life²¹. Regarding the prenatal appointments, they proved to be important for BF follow-up, as well as in the research carried out in the city of Porto Alegre that demonstrated favorable results for BF in women with more than eight appointments²².

The neonatal characteristics involved with EBF were low weight or adequate weight, and full-term and post-term birth. Other research studies also did not find significant associations of these data with BF; in the same way, they identified a higher prevalence of BF for the group of children born full-term and with adequate birth weight^{12,20}.

A variable that demonstrated significance as an important factor for breastfeeding was the number of childcare consultations, with women who went to eight or more appointments having a higher prevalence of BF, without adding other types of milk.

RMP recommends that the child goes to at least eight consultations in the first year of life, emphasizing the guidelines for maintaining breastfeeding and introducing complementary food when indicated⁹. Childcare is a priority moment in the care provided to the child and the family, in which there must be an exchange of experiences and strengthening of the bonds among those involved, so that mothers feel safe to take care of their babies⁷.

In this sense, the role of the nurse stands out, playing an important role in the promotion and protection of BF, which begins during prenatal care and extends in childcare consultations, being essential that this professional knows the



Research Article Artigo de Pesquisa Artículo de Investigación

DOI: http://dx.doi.org/10.12957/reuerj.2020.51623

prevalence of breastfeeding, as well as the factors that promote or hinder its maintenance, in order to direct care to the mother-child binomial, aiming to favor lactation and prevent early weaning. It can also restore the women's autonomy, conveying security and tranquility so that the mother develops her potential at birth and for the care of the child^{23,24}.

Almost all the children received water or tea before the age of six months, reinforced by the belief that the child was thirsty or by the early introduction of other foods. A similar result was found where 70% of the children up to six months old had already received some type of food or liquid¹⁶.

The early introduction of other liquids and foods can occur due to the lack of maternal information, reinforced by the belief that breast milk alone is not sufficient for adequate weight gain, or that it is not able to quench the child's thirst^{16,25}. It is worth emphasizing that food introduction before the age of six months can result in gastrointestinal and respiratory infections, in addition to the risk of harms to growth and development, since the infant's nutritional needs may not be met due to the lack of breast milk¹⁶.

Regarding the discontinuation of breastfeeding, almost half of the participants expressed difficulties that led to early weaning. This group of women introduced artificial milk more frequently when compared to the lactating women that did not report difficulties during breastfeeding. Corroborating these findings, the study carried out in a specialized breastfeeding service revealed that the women's difficulties interfere with the maintenance of EBF²⁶.

The reduction in milk production and the return to work were the difficulties most mentioned by the women for continuing breastfeeding. Maternal work is recognized as one of the main reasons for not breastfeeding or for early weaning¹⁷. Thus, breastfeeding protection policies such as maternity leave are necessary in view of the growing female participation in the labor market, represented in this research by almost half of the women with paid work.

A research study carried out in Rio de Janeiro verified that the prevalence of EBF was 91% higher for the mothers who received maternity leave when compared to those who did not receive it²⁷. Another study carried out in the Brazilian capitals also indicated that maternity leave contributed to an increase in the prevalence of breastfeeding²⁸.

In Brazil, although the extension of maternity leave to 180 days was approved in 2008, the concession of the benefit is voluntary on the part of the private companies, which means that adherence is still low and that a large part of working mothers end up returning to work after 120 days, around four months of life of the child^{28,29}, which can result in the interruption of breastfeeding.

One aspect highlighted in this study is that the professional who most supported the introduction of artificial breastfeeding was the pediatrician, probably due to the woman's return to work, similar to the findings found in various cities in the country³⁰.

The recommendations by health professionals seem worrying in relation to early weaning, which can be generated by lack of training in breastfeeding management³⁰. A study carried out with health professionals regarding the practices for the promotion of BF after the implantation of RMP revealed that there is lack of knowledge about adherence to breastfeeding in the place where they work, and that breastfeeding incentive practices occur in a fragmented manner, not considering the integrality of care of the mother-child binomial²⁴.

For mothers to maintain lactation after returning to work, it is important that the health professional encourages the family members, especially the partner (when present), to share household chores with the mother and guide the working mother to adopt measures such as: extracting and freezing the milk for future use; knowing the practicalities for milk extraction and storage in the workplace (privacy, freezer, schedules, conservation); and avoiding the use of bottles and pacifiers^{3,9}.

It is important to emphasize that the success of BF is not only the responsibility of women, since the promotion of breastfeeding goes through collective social responsibility¹⁷.

In this study, although an association between sociodemographic factors and low prevalence of EBF was not found, a result also found in another study in Paraná³¹, it can be inferred that weaning occurred mainly due to the return to work and, to a lesser extent, due to cultural influence, present in the region for being part of a border strip.

Study limitations

This study has the limitation of memory bias, since the participants may not remember exactly the chronological order of all the breastfeeding events and their difficulties. In addition, there were some losses, as it was not possible to contact all the women who participated in the first stage of the research for a home visit, as this is a border region with great population mobility.



However, it made it possible to identify the prevalence of BF and the factors related to its practice until the child's sixth month of life. This knowledge is fundamental to direct nurses' care practices to meeting the health needs of women and children, as well as the adoption of facilitating strategies to promote breastfeeding and reduce early weaning, contributing to the improvement of the health indicators of this population, meeting the premises of RMP.

CONCLUSION

The study demonstrated that, almost a decade after the implementation of RMP, the prevalence of EBF until the sixth month of life is below the recommended, although predominant BF was satisfactory. Sociodemographic, obstetric and neonatal factors did not show a significant association with EBF, but there was a higher proportion of children in EBF up to the sixth month of life for mothers under the age of 19, white-skinned, with up to eight years of schooling, with a partner, a monthly income between one and two minimum wages, and without any paid work. The same result was found for primiparous women who underwent vaginal delivery, with at least three prenatal appointments, babies born full-term or post-term, and with low or adequate weight.

It was verified that, among the greatest difficulties in maintaining breastfeeding, the return to work was significant.

Childcare consultation was identified as a protective factor for maintaining breastfeeding, demonstrating the importance of the follow-up by health professionals, especially nurses, by performing educational actions relevant to the promotion and maintenance of BF.

In addition, studies like this make it possible to create strategies to plan actions aimed at protecting and supporting BF, with strengthening of the support network, with the participation of the family and interaction with the interdisciplinary team, promoting a smooth and successful breastfeeding process.

REFERENCES

- Victora CG, Bahl R, Barros AJD, França GVA, Horton S, Krasevec J, et al. Breastfeeding in the 21st century: epidemiology, mechanisms, and lifelong effect. Lancet [Internet], 2016 [cited 2020 May 05]; 387:475-90. DOI: https://doi.org/10.1016/S0140-6736(15)01024-7
- 2. World Health Organization (WHO). Global strategy for infant and young child feeding. Geneva; 2001. (Document A54/ 7). [cited 2020 May 05]; Available from: https://www.who.int/nutrition/publications/infantfeeding/9241562218/en/
- 3. Ministério da Saúde (Br). Estratégia Nacional para Promoção do Aleitamento Materno e Alimentação Complementar Saudável no Sistema Único de Saúde: Manual de implementação. [Internet]. Brasília, 2015. [cited 2019 Oct 12]. Available from: http://bvsms.saude.gov.br/bvs/publicacoes/estrategia_nacional_promocao_aleitamento_materno.pdf
- Universidade Federal do Rio de Janeiro (UFRJ). Estudo Nacional de Alimentação e Nutrição Infantil ENANI-2019: Resultados preliminares – Indicadores de aleitamento materno no Brasil. UFRJ: Rio de Janeiro, 2020. 9p. Available from: https://enani.nutricao.ufrj.br/index.php/relatorios/
- Moraes de Oliveira M, Camelo JS. Gestational, perinatal, and postnatal factors that interfere with practice of exclusive breastfeeding by six months after birth. Int. Breastfeed J. [Internet], 2017 [cited 2020 May 05]; 12:42. DOI: https://doi.org/10.1186/s13006-017-0132-y
- Boccolini CS, Carvalho ML, Oliveira MIC. Factors associated with exclusive breastfeeding in the first six months of life in Brazil: a systematic review. Rev. Saúde Públ. [Internet], 2015 [cited 2020 May 05]; 49:91. DOI: https://doi.org/10.1590/S0034-8910.2015049005971
- Ministério da Saúde (Br). Secretaria de Atenção à Saúde. Departamento de Ações Programáticas e Estratégicas. Política Nacional de Atenção Integral à Saúde da Criança: orientações para implementação [Internet]. Brasília, 2018 [cited 2020 May 10]. Available from:

http://www.saude.pr.gov.br/arquivos/File/Politica_Nacional_de_Atencao_Integral_a_Saude_da_Crianca_PNAISC.pdf

- 8. United Nations. Transforming our world: the 2030 Agenda for Sustainable Development [Internet]. New York, 2015 [cited 2020 Mar 03]. Available from: https://nacoesunidas.org/pos2015/ods3/
- 9. Secretaria de Estado da Saúde do Paraná (SESA). Linha guia rede mãe paranaense [Internet]. Paraná, 2017 [cited 2018 Nov 15]. Available from: http://www.saude.pr.gov.br/arquivos/File/ACS/linha_guia_versao_final.pdf
- Caldeira S, Luz MS, Tacla MTGM, Machineski GG, Silva RMM, Pinto MPV et.al. Nursing care actions in the paranaense mother network program. Rev Min Enferm [Internet], 2017 [cited 2020 May 01]; 21:e-992. DOI: http://www.dx.doi.org/10.5935/1415-2762.20170002
- 11. Ministério da Saúde (Br). Secretaria de Atenção à Saúde. Departamento de Ações Programáticas e Estratégicas. Il Pesquisa de Prevalência de Aleitamento Materno nas Capitais Brasileiras e Distrito Federal / Ministério da Saúde, Secretaria de Atenção à Saúde, Departamento de Ações Programáticas e Estratégicas. Brasília (DF): Editora do Ministério da Saúde, 2009. 108 p. [cited 2020 May 01]; Available from: http://bvsms.saude.gov.br/bvs/publicacoes/pesquisa_prevalencia_aleitamento_materno.pdf
- Demitto MO, Antunes MB, Bercini LO, Rossi RM, Torres MM, Lopes TCR et al. Prevalência e fatores determinantes do aleitamento materno exclusivo. Rev. Uningá [Internet], 2017 [cited 2020 Oct 15]; 52(1):29-33. DOI: http://revista.uninga.br/index.php/uninga/article/view/1387



Research Article Artigo de Pesquisa Artículo de Investigación

- 13. Instituto Paranaense de Desenvolvimento Social e Econômico (IPARDES). Caderno Estatístico dos Municípios [Internet]. Foz do Iguaçu, 2020 [cited 2020 Mar 05]. Available from:
 - http://www.ipardes.gov.br/cadernos/MontaCadPdf1.php?Municipio=85850&btOk=ok
- 14. Pito ALBS. Epidemiologia aplicada nos serviços de saúde. 1ª ed. São Paulo: Editora Martinari; 2012
- Boccolini CS, Boccolini PMM, Monteiro FR, Venâncio SI, Giugliani ERJ. Breastfeeding indicators trends in Brazil for three decades. Rev. Saúde Públ. [Internet], 2017 [cited 2020 May 05]; 51:108. DOI: https://doi.org/10.11606/S1518-8787.2017051000029
- Flores TR, Nunes BP, Neves RG, Wendt AT, Costa CS, Wehrmeister FC et al. Maternal breastfeeding and associated factors in children under two years: the Brazilian National Health Survey, 2013. Cad. Saúde Pública [Internet], 2017 [cited 2020 May 05]; 33(11):e00068816. DOI: https://doi.org/10.1590/0102-311x00068816
- Rollins NC, Bhandari N, Hajeebhoy N, Horton S, Lutter CK, Martines JC et al. Why invest, and what it will take to improve breastfeeding practices? Lancet [Internet], 2016 [cited 2020 May 03]; 387(10017):491-504. 2016. DOI: https://doi.org/10.1016/S0140-6736(15)01044-2
- Maranhão TA, Gomes KRO, Nunes LB, Moura LNB. Factors related to exclusive breastfeeding among adolescent mothers. Cad. Saude Colet. [Internet], 2015 [cited 2020 May 15]; 23(2):132-9. DOI: https://doi.org/10.1590/1414-462X201500020072
- Alves JS, Oliveira MIC, Rito RVVF. Guidance on breastfeeding in primary health care and the association with exclusive breastfeeding. Ciênc. Saúde Colet. [Internet], 2018 [cited 2020 May 18]; 23(4):1077-88. DOI: https://doi.org/10.1590/1413-81232018234.10752016
- Margotti E, Margotti W. Factors related to Exclusive Breastfeeding in Babies born in a childfriendly hospital in a capital of Northern Brazil. Saúde debate [Internet], 2017 [cited 2020 May 08]; 41(114):860-71. DOI: https://doi.org/10.1590/0103-1104201711415
- 21. Freitas MG, Werneck AL, Borim BC. Exclusive breastfeeding: adhesion and difficulties. J. Nurs. UFPE online [Internet], 2018 [cited 2020 May 10]; 12(9):2301-7. DOI: https://doi.org/10.5205/1981-8963-v12i9a234910p2301-2307-2018
- 22. Gasparin VA, Strada JKR, Moraes BA, Betti T, Pitilin ÉB, Santo LCE. Factors associated with the maintenance of exclusive breastfeeding in the late postpartum. Rev. Gaúcha Enferm. [Internet], 2020 [cited 2020 Oct 20]; 41(esp): e20190060. DOI: https://doi.org/10.1590/1983-1447.2020.20190060
- Furtado MCC, Mello DF, Pina JC, Vicente JB, Lima PR, Rezende VD. Nurses' actions and articulations in child care in primary health care. Texto contexto enferm. [Internet], 2018 [cited 2020 May 15]; 27(1):e930016. DOI: http://dx.doi.org/10.1590/0104-07072018000930016
- 24. Silva RMM, França AFO, Toninato APC, Ferrari, RAP, Caldeira S, Zilly A. Promotion of breastfeeding: practices of physicians and primary health care nurses. RECOM Rev. enferm. Cent. Oeste Min. [Internet], 2019 [cited 2020 May 10]; 9:e3335. DOI: https://doi.org/10.19175/recom.v9i0.3335
- Campos AMS, Chaoul CO, Carmona EV, Higa R, Vale IN. Exclusive breastfeeding practices reported by mothers and the introduction of additional liquids. Rev. Latino-Am. Enfermagem [Internet], 2015 [cited 2020 May 05]; 23(2):283-90. DOI: http://dx.doi.org/10.1590/0104-1169.0141.2553
- 26. Carreiro JÁ, Francisco AA, Abrão ACFV, Marcacine KO, Abuchaim ESV, Coca KP. Breastfeeding diffi culties: analysis of a service specialized in breastfeeding. Acta paul. enferm. [Internet], 2018 [cited 2020 Oct 10]; 31(4):430-4. DOI: https://doi.org/10.1590/1982-0194201800060
- 27. Rimes KA, Oliveira MIC, Boccolini CS. Maternity leave and exclusive breastfeeding. Rev. Saúde Públ. [Internet], 2019 [cited 2020 May 13]; 53:10. DOI: https://doi.org/10.11606/S1518-8787.2019053000244
- Monteiro FR, Buccini GS, Venâncio SI, Costa THM. Influence of maternity leave on exclusive breastfeeding. J. Pediatr. [Internet], 2017 [cited 2020 May 02]; 93(5):475-81. DOI: https://doi.org/10.1016/j.jped.2016.11.016
- Brasil. Lei N ° 11.770, de 9 de setembro de 2008. Cria o Programa Empresa Cidadã, destinado à concessão de licença de maternidade mediante concessão de incentivo fiscal, e altera a Lei n° 8.212, de 24 de julho de 1991. *Diário Oficial da União*. 10 set 2008; Seção 1:1.
- Morais MB, Cardoso AL, Lazarini T, Mosquera EMB, Mallozi MC. Habits and attitudes of mothers of infants in relation to breastfeeding and artificial feeding in 11 brazilian cities. Rev. Paul. Pediatr. [Internet], 2017 [cited 2020 May 10]; 35(1):39-45. DOI: https://doi.org/10.1590/1984-0462/;2017;35;1;00014
- Fernandes RC, Höfelmann DA. Intention to breastfeed among pregnant women: association with work, smoking, and previous breastfeeding experience. Ciênc. Saúde Colet. [Internet], 2020 [cited 2020 Oct 23]; 25(3):1061-72. DOI: https://doi.org/10.1590/1413-81232020253.27922017