

Maternal intention to breastfeed, duration of breastfeeding and reasons for weaning: a cohort study, Pelotas, RS, Brazil, 2014*

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Abstract

Objective: to evaluate maternal intention to breastfeed, duration of breastfeeding up to 24 months-of-age and reasons for weaning in the first year of life. **Methods:** this was a cohort study conducted in Pelotas, RS, Brazil, with participants from the Multi-Center Body Composition Study; a life table was used to analyze duration of breastfeeding. **Results:** of the 1377 mothers screened, 74.3% reported intending to exclusively breastfeed up until 6 months, while 91.1% intended to prolong breastfeeding until at least 12 months; 58.0% of children were breastfed up to at least 6 months; median breastfeeding duration was 10.8 months (IQR: 5.8 - 23.0); the main reasons reported for weaning were insufficient breast milk (57.3%), return to work/school (45.5%), and unexplained refusal by the baby (40.1%). **Conclusion:** the results show that despite the intention to breastfeed, there are still structural and social barriers that interfere with successful breastfeeding, especially those related to working mothers.

Keywords: Breast Feeding; Intention; Weaning; Longitudinal Studies.

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Introduction

The Brazilian Ministry of Health recommends that breastfeeding should begin in the first hour of life and be the exclusive form of feeding up until 6 months of age. After this period it should be continued up until at least two years of age with gradual and adequate introduction of complementary food.¹

Besides being a strategy which by itself most prevents infant mortality, breastfeeding has a positive influence on the physical and mental health of both the mother and the baby.² Apart from the recognized benefits and advantages, a literature review published in 2016 found that personal choice influences the mother's decision to breastfeed: successful breastfeeding experiences consisted of positive precedents with regard to maternal intention to breastfeed (MIB) for longer and exclusively.³

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However, more recent data, representative of the entire population with regard to the practice of breastfeeding, gathered via the 2006 National Demographic and Health Survey (PNDS)⁴ and the II Survey of Maternal Breastfeeding Prevalence in the Brazilian State Capitals and Federal District,² revealed that median duration of exclusive maternal breastfeeding was 2.2 months, while median duration of breastfeeding was 14.0 months, according to the 2006 PNDS, and 11.2 months (confidence interval [CI] 10.9 – 11.6), according to the survey carried out in the state capitals and Federal District mentioned above; both these results are not in keeping with Ministry of Health recommendations.⁵ A study published in 2019, conducted in the city of Pelotas, RS, using data from four birth cohorts (1982, 1993, 2004 and 2015), found positive variation in duration of maternal breastfeeding during the period ranging from the first to the last year comprised by the four cohorts, with prevalence of breastfeeding in the first year of life increasing from 16.0% to 41.0%.⁶

Among the factors relating to successful breastfeeding is MIB and its power of association with lower maternal age and schooling and with the wish to breastfeed expressed by women during pregnancy.⁷ This predictor was reported in another study conducted in Pelotas, in which mothers not intending (during pregnancy) to breastfeed had around two times more risk (RR=2.31 – CI 1.44 – 3.70) of weaning early – before the child was three months old –, when compared to mothers intending to breastfeed.⁸

The literature shows differing maternal reasons for weaning, varying according to the infant's age. Specific lactation problems are described with greater frequency in the first months of life, such as insufficient breast milk production and breast problems,⁹ while in the fourth or fifth month of life, returning to work is indicated as one of the main reasons for weaning.¹⁰

The objective of this study was to estimate prevalence of MIB, to observe the practice of maternal breastfeeding up to 24 months of age and to describe the reasons for weaning during the first year of life of babies born in the municipality of Pelotas, Rio Grande do Sul state, Brazil.

Methods

This was a prospective cohort study of data on Brazilians participating in phase one of the Multi-Centre Body Composition Study (MBCS), conducted in Pelotas, RS, Brazil, with the objective of describing the body composition of infants aged up to 2 years old, using stable isotope techniques (deuterium oxide). The MBCS was conducted at the same time in a further four countries (South Africa, Pakistan, Kenya and Sri Lanka). The children were recruited at birth and followed up at 3, 6, 9, 12, 18 and 24 months, when maternal and paternal information was collected, as well as information on the child's health and nutrition, in face-to-face interviews with a female general practitioner at the Amílcar Gigante Health Research Center/Federal University of Pelotas, or at home if the mother so requested.

According to the sample size calculated in order to achieve the main objective of the MBCS study, i.e. to estimate body fat mass and fat-free mass of boys and girls, the study needed to recruit at least 150 children in each country, plus 10% for possible losses and

refusals. In Pelotas, recruitment of newborns occurred between September 2014 and February 2015, in the city's four maternity hospitals.

In order to take part in the study, mothers and newborns needed to meet the following criteria: family resident in the city of Pelotas; mother 18 years old or over; single child birth; full-term birth (gestational age ≥ 37 weeks and < 42 weeks); absence of important perinatal medical conditions; family income of at least three minimum wages; non-smoking mother or who smoked less than three days a week during pregnancy and in the postpartum period; and intention to breastfeed exclusively for the first 6 months and to prolong breastfeeding up to at least 12 months. Being in keeping with these criteria was checked through interviews with the mothers as well as checking their medical records. According to these criteria, the children would have the conditions needed to meet their maximum genetic growth potential. Of the 1377 pairs of mothers and babies screened at the four maternity hospitals in Pelotas, 235 were classified as being eligible and 168 (71%) of these agreed to take part in the multi-center study (Figure 1).

Breastfeeding duration was measured in the face-to-face interviews; or by telephone in the case of mothers who did not attend appointments. Causes of weaning were investigated in the face-to-face interviews and also via a sub-study, carried out either by telephone or at the child's home, depending on the mother's availability, as soon as weaning was identified. In the case of mothers who stopped breastfeeding before 12 months, a questionnaire with 11 questions was administered regarding the reasons for weaning, with dichotomous reply alternatives (yes; no). That questionnaire was prepared by the multi-center study team and tested beforehand in the local context by means of a pilot study conducted in the Federal University of Pelotas Faculty of Medicine Pediatrics Outpatients Department, with 16 mothers of infants aged under 1 year old recruited in the waiting room. The reasons for weaning covered by the questionnaire were: lack of time, personal preference, new pregnancy, baby old enough, return to work/school, inadequate social support, refusal by the baby, letting the baby eat other food, insufficient breast milk, health problems and baby crying. There was also an open question about 'other reasons' for weaning not taken into account by the questionnaire.

The independent variables investigated were:

- a) maternal schooling (elementary/high school/technical college education; higher education);
- b) mother's occupation (housewife/student; qualified/unqualified manual work; managerial/professional/technical; administrative/sales assistant or other);
- c) marital status (no partner; partner);
- d) parity (number of children: primipara; multipara);
- e) baby's sex (male; female);
- f) birth weight (in kilograms: < 2.500 ; $2.500-3.499$; ≥ 3.500), whereby low birth weight (LBW) babies were considered to be those weighing less than 2.500kg;
- g) nutritional status of the baby at 3 months old, according to weight/age index (underweight; adequate weight), height/age index (low height; adequate height) and weight/height index (severely underweight; underweight; normal weight; risk of overweight; overweight);¹¹ e
- h) hospitalizations up to 3 months old, following discharge from hospital after childbirth (yes; no).

The sample variables were described in absolute frequencies, respective averages and standard deviations or proportions, according to the variables of interest. Prevalence rates of intention to breastfeed exclusively for 6 months and to prolong breastfeeding for at least 12 months, and respective 95% confidence intervals (95%CI), were calculated taking the total of screened mothers as the denominator. When analyzing breastfeeding duration, we only took into consideration mothers and babies who met the eligibility criteria and agreed to take part in the study. We built a life table, containing information on the number of breastfed children, lost information and calculations of probability of risk of weaning and probability of continuing breastfeeding, for each of the study's follow-up periods. Median duration of maternal breastfeeding and its interquartile range (IQR) were presented in accordance with the independent variables and statistical significance of association. The latter was assessed using the Wilcoxon test for dichotomous exposures and the Kruskal Wallis test for polytomous exposures. We analyzed frequency of weaning before children were 12 months old, according to maternal sociodemographic variables (schooling, occupation, marital status and parity) and according to baby variables (sex, birth weight, nutritional status at 3 months old and hospitalizations up to 3 months old). Association was found using Pearson's chi-square

test and, when necessary, Fisher's exact test. Reasons for weaning before 6 months old and between six and 12 months old were presented in the form of relative frequencies. In the analyses the significance level was presumed to be 5%. The data were analyzed using the Stata 12.1 statistical package.

The study project was approved in 2014 by the Federal University of Pelotas Faculty of Medicine Research Ethics Committee (CEP/FAMED/UFPel) and by the National Health Council National Research Ethics Committee (CONEP/CNS): Opinion No. 1.199.651. As a prerequisite for taking part in the study and data collection, the mothers signed a Free and Informed Consent form, as per National Health Council Resolution No. 466, dated December 12th 2012.¹²

Results

Of the 1377 pairs of mothers and babies screened at the four maternity hospitals in Pelotas, 235 were eligible and 168 (71.0%) of these agreed to take part in the multi-center study (Figure 1). With regard to the characteristics of the participating pairs of mothers and babies (N=168), as per the data shown in Table 1, almost half the mothers had higher education (46.5%), almost all of them (95.8%) lived with a partner and the majority (60.7%) were primiparas. In relation to the newborn babies, 4.8% had LBW (<2.500kg). At 3 months old, the majority had adequate weight-for-age (97.9%), while 4.2% had low height-for-age and 5.2% were underweight for height. Only 7.9% of the babies had been hospitalized before they were 3 months old.

Exclusive MIB was 74.3% (95%CI72.1;76.5) up to sixth months old among the 1377 mothers screened, while MIB for at least 12 months was 91.1% (95%CI89.5;92.7). Among the 130 children with information about breastfeeding duration up to 12 months old, 77% of the initial sample (Figure 1) had median breastfeeding duration of 10.8 months (IQR5.8;23.0). It should be pointed out that study follow-up finished when the babies were 24 months old.

Figure 2 shows maternal breastfeeding duration at each follow-up during the 2 year study period. In the case of 32 children who continued to be breastfed at the last follow-up (at 24 months old), it was not possible to determine their exact age when they were weaned, although it may possibly have been more than 24 months old. Probability of interrupting breastfeeding

before the third month was 9.4% (95%CI5.2;15.3), while in the interval of time between the third and 6 month, probability was 16.4% (95%CI10.2;24.4). 3 quarters of the children were breastfed until they were 5.9 months old, while half of them were weaned after eight months.

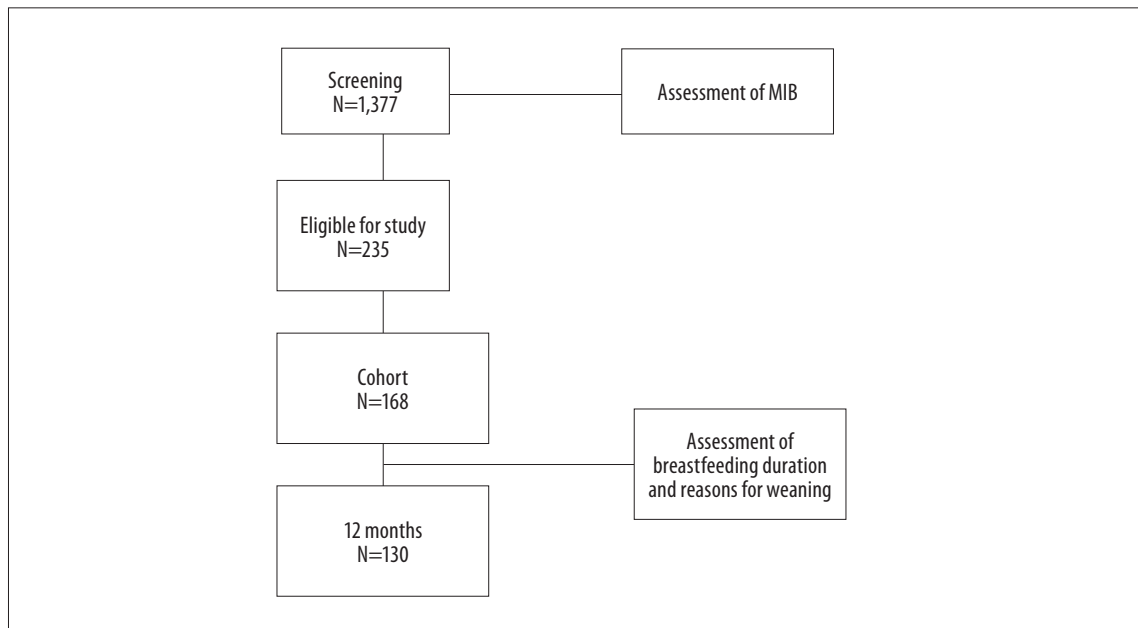
Table 2 shows the median and the interquartile range of breastfeeding duration, according to maternal characteristics and infant characteristics at birth and at 3 months old. Median breastfeeding duration was lower among mothers with less schooling, those who did manual work (whether qualified or not) and those who were primiparas. Children born underweight, those with adequate weight and height-for-age, those without risk of overweight and those who had not been hospitalized were breastfed for a shorter period of time. The differences between these children and their peers were not statistically significant.

Table 2 also shows relative frequencies of weaning before 12 months old. Difference was only significant for the 'maternal schooling' variable, with weaning before 12 months being more frequent among mothers with elementary/high school/technical college education (61.4%), compared to mothers with higher education (40.0%) (p=0.015).

With regard to reasons for weaning, the 62 mothers whose babies were weaned before they were 12 months old reported insufficient breast milk (57,3%), returning to work/school (45.5%) and unexplainable refusal by the baby (40.1%) as the main difficulties found in prolonging breastfeeding for the period they had intended shortly after childbirth. Figure 3 shows the frequency variation in the most important reasons for weaning, comparing the first six months with the 6 to 12 month period. In the case of children weaned before they were 6 months old, the most frequent reasons were insufficient breast milk (69.0%), unexplainable refusal by the baby (37.9%) and return to work/school (24.1%) (Figure 3-A), while in the case of babies aged 6 to 12 months old, the most frequent reasons were return to work/school (63,6%), insufficient breast milk (45.5%) and unexplainable refusal by the baby (42.4%) (Figure 3-B).

Discussion

Among mothers and babies from the city of Pelotas taking part in the Multi-Centre Body Composition Study, this study described the proportion of mothers who at childbirth intended to breastfeed, the proportion



Legend
MIB: maternal intention to breastfeed

Figure 1 – Multi-Centre Body Composition Study flowchart, municipality of Pelotas, RS

of children exclusively breastfed for the first six months of life, duration of maternal breastfeeding and reasons for weaning. Attention is drawn to the high prevalence of mothers in the city of Pelotas intending to breastfeed exclusively for the first 6 months (74%) and to extend breastfeeding for at least 12 months (91%). In order to be eligible to take part in the study, mothers and babies had to belong to families having a given economic level: monthly family income of at least three minimum wages. Despite this condition, half of the newborns in the study were weaned before they were 1 year old. In addition to median maternal breastfeeding (11 months) not reflecting mothers' reported intention immediately after childbirth, we highlight that insufficient breast milk, return to work/school and unexplainable refusal by the baby were the most frequent reasons for early weaning.

With regard to MIB, the findings of our study were more satisfactory than those found by a study conducted at a site in Malaysia in 2012 with pregnant women cared for at public health services: prevalence of exclusive MIB at 6 months old was just 43%.¹³ The same study found that when asked during pregnancy, 50% of the mothers intended to breastfeed exclusively for at least 4 months; however, median intention to breastfeed exclusively reduced to just one month when the mothers were

interviewed after childbirth. The difference between the labor laws of both countries is noteworthy: in Malaysia, the law provides for maternity leave of just 8.5 weeks,¹⁴ whereby intention to breastfeed is conditioned by maternal work activity.

Also in relation to MIB, a study in the United States found that 28.8% of mothers were unable to fulfill their intention to breastfeed for at least 3 months, and that the likelihood of not achieving breastfeeding duration intended when they were pregnant was greater among mothers who returned to a full-time job before 3 months following childbirth.¹⁵ This result corroborates those of other studies carried out in the USA which mention mothers' work as the reason for interrupting breastfeeding, given that maternity leave in the United States is just 12 weeks, whereas the International Labor Organization (ILO) recommends that paid maternity leave should be at least 14 weeks.¹⁴ In turn, a study conducted in 2010, with puerperal women also from Pelotas, found that mothers intended to breastfeed exclusively for 5.5 months on average, and that intention to breastfeed for longer was associated with higher schooling, lower maternal age, nor working away from home and having received information about breastfeeding during prenatal medical appointments.¹⁶

Table 1 – Sociodemographic characteristics of mothers and babies taking part in the Multi-Centre Body Composition Study, municipality of Pelotas, RS, 2017

Variables	n	%
Perinatal characteristics (N=168)		
Maternal schooling		
Elementary/high school/technical college education	90	53.5
Higher education	78	46.5
Mother's occupation		
Housewife/student	36	21.4
Qualified/unqualified manual work	13	7.8
Managerial/professional/technical	65	38.7
Administrative/sales assistant or other	54	32.1
Marital status		
No partner	7	4.2
Partner	161	95.8
Parity		
Primipara	102	60.7
Multipara	66	39.3
Baby's sex		
Female	84	50,0
Male	84	50,0
Birth weight (in kg)		
<2.500	8	4.8
2.500 – 3.499	128	76.6
≥3.500	31	18.6
Characteristics at three months old (N=140)		
Weight-for-age		
Underweight	2	2.1
Adequate weight	94	97.9
Height-for-age		
Low height	4	4.2
Adequate height	92	95.8
Weight-for-height		
Severely underweight	2	2.1
Underweight	3	3.1
Normal weight	66	68.8
Risk of overweight	22	22.9
Overweight	3	3.1
Hospitalizations (up to three months old)		
Yes	11	7.9
No	129	92.1

(1) Months since birth	(2) Number of children breastfeeding at the beginning of the period	(3) Breastfeeding interrupted during the period	(4) Number of children lost to follow-up during the period	(5) Number of children at risk of interrupted breastfeeding during the period ^a	(6) Risk of breastfeeding interruption during the period (%) ^b	(7) Probability of continuing breastfeeding during the period ^c	(8) Probability of continuing breastfeeding right from birth ^d	(9) 95%CI ^e of the probability of continuing breastfeeding right from birth (%)
<3	168	14	38	149	9.4	90.6	90.6	88.2;93.0
3 - 5.9	116	19	-	116	16.4	83.6	75.7	71.8;79.6
6 - 8.9	97	23	-	97	23.7	76.3	57.8	52.8;62.8
9 - 11.9	74	11	-	74	14.9	85.1	49.2	43.4;55.0
12 - 17.9	63	20	-	63	31.8	68.2	33.6	27.7;39.5
18 - 23.9 ^f	43	11	-	43	25.6	74.4	25.0	18.4;31.6

a) Number of children being breastfed since the beginning of the period, less half the number of censored children - (2) - (4)/2 -, assuming that on average these losses occurred in the middle of the month.

b) (3)/(5).

c) 1 - (6).

d) (8 prior month) x (7).

e) 95%CI: 95% confidence interval.

f) Final follow-up was at 24 months.

Figure 2 – Life table showing duration of breastfeeding among 168 children taking part in the Multi-Centre Body Composition Study right from birth, municipality of Pelotas, Rio Grande do Sul

Table 2 – Median and interquartile range (IQR) of breastfeeding duration and proportion of children weaned by 12 months of age (N=130), according to maternal variables and child variables at birth and at three months old, municipality of Pelotas, Rio Grande do Sul

Variables	Duration of breastfeeding (in months)			Weaned <12 months	
	Median	IQR ^a	p-value	n (%)	p-value ^b
Maternal characteristics					
Schooling			0.114^c		0.015
Elementary/high school/technical college education	8.5	5.0;22.0		43 (61.4)	
Higher education	13.3	6.0;23.5		24 (40.0)	
Occupation			0.067^d		0.068
Housewife/student	12.0	5.0;19.0		12 (46.2)	
Qualified/unqualified manual work	6.0	4.0;7.0		9 (90.0)	
Managerial/professional/technical	12.0	7.0;20.0		24 (45.3)	
Administrative/sales assistant or other	10.5	4.0;24.0		22 (53.7)	
Marital status			0.286^c		0.142
No partner	18.0	12.0;24.0		0 (0.0)	
Partner	10.3	5.6;22.5		67 (52.3)	
Parity			0.398^c		0.650
Primipara	9.5	5.8;22.0		43 (53.1)	
Multipara	12.0	6.0;24.0		24 (49.0)	
Characteristics of baby at birth					
Sex			0.844^c		0.599
Female	12.0	5.0;23.0		32 (49.2)	
Male	10.0	6.0;22.0		35 (53.9)	
Birth weight (kg)			0.726^d		0.714
<2.500	6.5	5.0;15.0		4 (66.7)	
2.500 – 3.499	11.0	6.0;24.0		50 (51.6)	
≥3.500	12.0	4.5;23.0		13 (48.2)	
Characteristics of baby at three months old					
Weight-for-age			0.647^c		0.511
Underweight	15.0	15.0;15.0		0 (0)	
Adequate weight	12.0	6.0;24.0		38 (41.8)	
Height-for-age			0.414^c		0.267
Low height	15.0	12.0;24.0		0 (0)	
Adequate height	12.0	6.0;24.0		38 (42.2)	
Weight-for-height			0.730^d		0.923
Underweight	12.0	4.5;19.0		2 (40.0)	
Normal weight	12.0	6.5;24.0		27 (42.2)	
Risk of overweight/overweight	13.5	6.8;24.0		9 (37.5)	
Hospitalizations (up to three months old)			0.312^c		0.561
Yes	11.0	6.0;23.0		6 (60.0)	
No	8.0	3.0;18.0		59 (50.4)	

a) IQR: interquartile range.

b) Pearson's chi-square test.

c) Wilcoxon test.

d) Kruskal Wallis test.

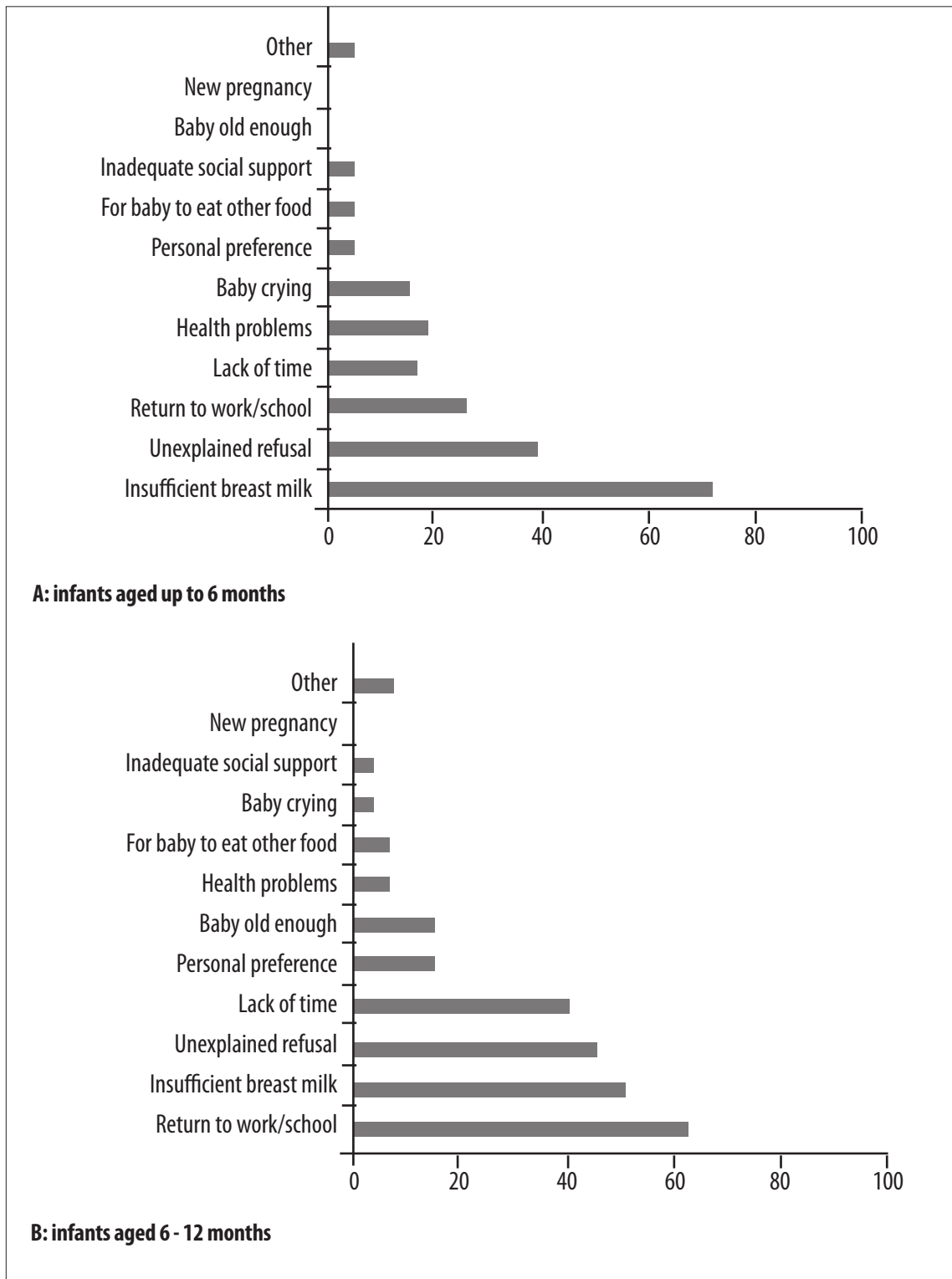


Figure 3 – Frequency of reasons claimed by mothers (n=62) for weaning children by 12 months old, municipality of Pelotas, Rio Grande do Sul

With regard to sample characteristics that positively influenced the results, almost 50% of the mothers had complete higher education and the babies of some 40% of these were weaned before they were 12 months old, compared to over 60% of the babies of mothers without higher education. This finding corroborates that of Hauck et al., which found conclusive association between lower levels of maternal schooling and early interruption of maternal breastfeeding among Australian mothers.¹⁷

Absence of association between duration of maternal breastfeeding and mother's occupation may have been affected by the sample size. However, among mothers who did manual work, 90% of babies were weaned before they were 12 months old, and the lowest weaning frequency was found among the 'managerial/professional/technical' category of the 'mother's occupation' variable ($p=0.068$). This finding is consistent with an Australian study, according to which mothers who held managerial or professional positions or who were self-employed were more likely to breastfeed for longer.¹⁸ 'Maternal work' is a variable that is used a lot in studies, although few studies associate type of occupation with duration of breastfeeding. Available studies assess working away from home, type of employment relationship (formal or informal),¹⁹ and whether it is part-time or full-time.²⁰

Increased participation of women on the labor market and short maternity leave duration, even though it is a right ensured by many countries,¹⁴ result in returning to work being among the main reasons for weaning when a child is between six and 12 months old, as this period coincides with the end of maternity leave in all sectors. Notwithstanding, it is noteworthy that Brazil is one of the countries in which maternity leave is longer than that recommended by ILO, as well as ensuring breaks for breastfeeding in the workplace for mothers who need to return to work when their children are less than six months old.²¹ In this sense, a study conducted in the Brazilian state capitals found that maternity leave favored increased prevalence of prolonged exclusive breastfeeding, stressing the need to increase this benefit to six months (baby's age) in all sectors.²²

Babies being hospitalized before they were three months old was not associated with weaning before they were 12 months old, this being different to a study conducted in Salvador, BA, where exclusive breastfeeding was interrupted in 35.4% of hospitalization cases.²³ However, there is a scarcity of

studies evaluating association between breastfed infants being hospitalized and the practice of maternal breastfeeding.

Breastfeeding was interrupted among around a quarter of the babies after they were 24 months old. Median breastfeeding was lower than that found by the II Survey of Maternal Breastfeeding Prevalence in the Brazilian State Capitals and Federal District² – 12.9 months – and by the 2006 PNDS⁴ – 14 months.

As for the reasons why mothers wean their children, the results we found did not differ from the findings of international studies in which insufficient breast milk and return to work/school were the main difficulties faced by mothers in carrying on with breastfeeding for the length of time originally intended.²⁴ Another study with the population of mothers in Pelotas, prior to this study, found reduced breast milk production and children's refusal to breastfeed to be reasons related to weaning.²⁵

In this study, notably higher frequency of insufficient breast milk production stands out among the reasons most claimed by mothers for early interruption of breastfeeding, especially in the first six months of their baby's life. However, reports of this phenomenon among nursing mothers in the existing literature are quite rare,²⁶ so that this claim may be associated with mothers' insecurity in the face of breastfeeding difficulties: e.g. when they mistakenly think that their breast milk is weak or insufficient to satisfy their babies.²⁷ This is a mistaken notion that can be minimized through adequate, informative and encouraging clinical management, given that, according to research reported by Olang et al., insufficient breast milk production is associated with maternal psychological factors.²⁸

Diverse interventions aimed at promoting, protecting and supporting maternal breastfeeding are being implemented, such as encouragement of maternal breastfeeding in Primary Care, by means of the Breastfeed and Feed Brazil Strategy,²⁹ and in hospital care, by means of the Child-friendly Hospital Initiative. With regard to legal protection of maternal breastfeeding, there is the Brazilian Norm for Commercialization of Food Products for Infants (NBCAL),³⁰ as well as optional extension of maternity leave and actions to support breastfeeding in the workplace, by means of reserved Breastfeeding Support Rooms in companies. While adherence to this initiative is incipient in Brazil, nevertheless it aims to protect breastfeeding after maternity leave has ended.²⁹

With regard to the limitations of this study, first of all there may be an underlying recall bias: the answers given by mothers as to the reasons for weaning when their child was already more than one year old. Furthermore, the results of this study cannot be generalized to the entire population owing to the inclusion criteria of the larger study in which this study was nested: only children with greater probability of achieving their growth potential. Notwithstanding, this study has shown that even among mothers and babies situated within a more favorable economic, behavioral and health scenario, a substantial number of babies who were weaned early can be identified.

Some aspects strengthen the results presented here: (i) rigorous data collection; (ii) use of a standard instrument, especially designed for a study in a further four countries apart from Brazil, under the control of infant nutrition experts; (iii) the carrying out of a pilot study to check whether the internationally developed instrument for identifying reasons for weaning would be applicable to reality in Pelotas; and (iv) constant supervision by the researchers.

Although this study found high prevalence of maternal intention to breastfeed – MIB –, breastfeeding duration

in the sample analyzed was not in keeping with Ministry of Health recommendations. The reasons reported by the mothers for early weaning indicate the need to scale up public policies on maternal breastfeeding promotion, protection and support taking into consideration the reality of working mothers. New studies are therefore shown to be necessary, focused on the effectiveness of policies, programs and actions existing worldwide, in order to remove structural and social barriers capable of interfering with successful breastfeeding.

Authors' contributions

Amaral SA, Bielemann RM and Del-Ponte B contributed with the conception of the study, data analysis or interpretation, drafting preliminary versions and critically reviewing the article. Valle NCJ, Costa CS, Oliveira MS and Santos IS contributed with the conception of the study, data interpretation and critically reviewing the article. All authors have approved the final version and are responsible for all aspects thereof, ensuring that questions related to the precision and integrity of any part of the article will be duly investigated and clarified.

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