Exclusive breastfeeding in preterm infants at child-friendly hospitals: a comparative study

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ABSTRACT

Aim: to compare the prevalence of exclusive breastfeeding (EBF) and to verify the factors associated with its interruption in premature infants hospitalized at Baby-Friendly hospitals. **Method:** this is a comparative study performed with 107 premature infants admitted to the neonatal unit of two hospitals in Paraná. Data were obtained through interviews with mothers and analysis of infant records at hospital discharge and 15 days after delivery. **Results:** the prevalence of EBF was 29.2% in the University Hospital and 15.3% in the Philanthropic Hospital. At hospital discharge, associations with clinical characteristics of infants predominated, and 15 days after discharge there was a greater association with the socio-demographic characteristics of the parents. **Conclusion:** the prevalence of EBF, which was shown to be low at the time of hospital discharge in both hospitals, decreased after discharge, reinforcing the need for other strategies, in addition to those provided at Baby-Friendly hospitals, for the promotion and support of EBF in preterm infants.

Descriptors: Prevalence; Infant, Premature; Breast Feeding; Weaning.

INTRODUCTION

Breast milk is ideal food for the growth and development of the newborn (NB), especially in premature infants, for reducing infant mortality, preventing infections and allergies, and encouraging the mother-baby bond[1].

The World Health Organization (WHO) and the Ministry of Health advocate exclusive breastfeeding (EBF) up to the sixth month of life of the child, giving it the following definition: "to receive only milk from their mother or from human milk, and no other liquid or solid except for vitamins, minerals and medicines." The definition of breastfeeding (BF) is classified when the child receives breast milk (directly from the breast or milked), regardless of whether or not receiving other types of food, and non-breastfeeding is defined by the child who does not receive breast milk[2].

Breastfeeding a hospitalized preterm is a major challenge because of its physiological and neurological immaturity, difficulty in coordinating suction-swallowing-breathing and prolonged hospitalization. This context generates feelings of incapacity and emotional stress in the mother that may decrease lactation, impede early mother-child contact, and promote the late start of EBF, which contributes to the low rates of BF in this clientele[3].

Brazil is internationally recognized for the development of actions aimed at increasing the EBF rates (4), such as the Baby-friendly Hospital Initiative (BFHI), which was devised in 1990 by the WHO and the United Nations Children's Fund (UNICEF), with the objective of promoting, protecting and supporting BF. In order to achieve this, the policy of the Ten Steps to the Success of BF in Child-Friendly Hospitals has been adopted and its dissemination has significantly contributed to EBF rates and duration, with a 15% increase between 1996 and 2006[4].

Preterm infants require differentiated attention to support the practice of BF. However, no studies were found regarding the contribution of BFHI to the guarantee of EBF during and after hospitalization in this population. In addition, conventional BFHI has been reported as insufficient to meet this specificity[5].

Thus, the objective of this study was to compare the prevalence of EBF at hospital discharge and 15 days after the study, and to verify the factors associated with the interruption of EBF in preterm infants admitted to two hospitals named as Child Friendly in the South of Brazil.

METHOD

The present research is part of the multicenter project "Breastfeeding in premature infants: impact of BFHI for neonatal units", funded by the Bill & Melinda Gates Foundation / CNPq. This is a cross-sectional, comparative and quantitative approach.

The research was carried out in the neonatal units of two large hospitals in the Southern region of the country, one public (university) and one philanthropic, which implemented the BFHI strategy for at least fifteen years.

Both institutions are considered a regional reference for high risk pregnancies and attend a large proportion of premature infants and very low birth weight infants. The university hospital (UH) exclusively serves users of the *Sistema Único de Saúde* (SUS - Unified Health System). The philanthropic (PH), in turn, destines 28% of its maternity beds to the SUS clientele and the others are occupied by other complementary services, either agreements or private.

The study population consisted of all preterm infants and their respective mothers who were discharged from the neonatal unit between April and July 2014 in the two hospitals

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surveyed. Inclusion criteria were gestational age (GA) of less than 37 weeks and hospitalization in the first 48 hours of life, excluding those with contraindication for BF (ex: malformations of the oral cavity, phenylketonuria, galactosemia, mother with HIV , etc.).

Data collection was performed in two moments: at the hospital discharge of the newborn and 15 days after discharge, the latter was done via telephone contact with the mother, at which time an interview was conducted on the situation of early EBF/weaning at home.

The dependent variable of this study was the interruption of EBF. The main variables analyzed were the socioeconomic conditions of the preterm family, the characterization of pregnancy and delivery, the characterization of preterm infants and the factors related to the interruption of the EBF at hospital discharge and in the period of 15 days after discharge.

The Statistical Package for Social Science (SPSS) version 20.0 was used for statistical analysis. The socioeconomic conditions of the premature baby's family, the characterization of the gestation/delivery and the NBs were analyzed descriptively for the knowledge of the groups' profile; then homogeneity analyzes were performed by Student's t-tests, Chi-square test and Fisher's exact test. The gross and adjusted prevalence ratios (PR) were adjusted to their respective confidence intervals (95% CI). Exposure variables that in the bivariate analysis presented p value <0.20, were incorporated into the multivariate models. The Poisson regression model with robust variance was used to verify the existence of factors associated with interruption of the EBF. The variables that maintained a significant association after adjustment (p≤0.05), according to the Wald test, remained in the final models.

This study was approved by the Research Ethics Committee of the University of São Paulo at Ribeirão Preto College of Nursing (EERP/USP), under the CAAE No.: 23975813.7.1001.5393. Participation in the research was confirmed through the signing of the Informed Consent Term, which ensured the confidentiality and anonymity of the participants.

RESULTS

A total of 107 premature infants and their mothers were studied, 48 of the neonatal unit of UH and 59 of PH. Homogeneity was observed between groups in the following variables: maternal age, history of preterm birth, history of previous breastfeeding and type of gestation. As for the other variables, the groups showed different values, since they presented p≤0.05 value (Table 1).

Regarding the characteristics of preterm newborns, some variables showed homogeneity between the two groups, such as GA at birth, in which more than half of the preterm infants were born with less than 34 weeks in both groups; Apgar, in which the majority of NB presented values ≥ 7 in the 5th minute; mean weight and corrected gestational age (CGA) when breastfed for the first time; and mean weight at discharge (Table 1).

It is worth noting the characterization of a more seriously ill population in UH due to differences observed between the groups in the meantime of hospitalization, birth weight and Apgar in the 5th minute of life, need for parenteral nutrition and time of ventilatory support/oxygen therapy.

Figure 1 compares the prevalence of EBF of preterm infants at hospital discharge and after 15 days. It was verified that the prevalence in the two hospitals had little variation when comparing the time of hospital discharge with the first fortnight after discharge and did not present a

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Table 1. Socioeconomic characterization of the mothers of preterm infants, gestation, delivery and preterm newborns in two hospital institutions. Londrina, PR, Brazil, 2014

Characteristics of mothers	UH (n=48)		PH (n=59)		p (Test)
Mother's age (mean, range)	25 (15-40)		27 (16-45)		0,075*
Parents reside together (n,%)	36	75,0	57	96,6	0,001**
Mother's education (n,%)					**0,007****
< 8 years of study	11	22,9	3	5,1	
≥ 8 years of study	37	77,1	56	94,9	
Work outside the home (n, %)	28	58,3	22	37,3	0,030**
Monthly family income (n, %)					**0,000****
1 to 2 minimum wages	31	64,6	4	6,8	
≥ 3 minimum wages	17	35,4	55	93,2	
Pre-natal place (n, %)					**0,000****
Health Post/Unit	48	100,0	5	8,5	
Other/Private	0	0,0	54	91,5	
Preterm birth history (n, %)	4	8,3	4	6,8	1,000***
Previous breastfeeding (n, %)	34	70,8	49	83,0	0,132**
Type of gestation (n, %)					**0,064****
Single	38	79,2	37	62,7	
Double or more	10	20,8	22	37,3	
Intercurrences in pregnancy (n, %)	30	62,5	48	81,4	0,029**
Intercurrences in childbirth (n, %)	13	27,1	1	1,7	0,000**
Type of delivery (n, %)					**0,000****
Vaginal	19	39,6	4	6,8	
Cesarean section	29	60,4	55	93,2	
NB Features	**UH (n=48)**		**PH (n=59)**		
Sex of the NB (n, %)					
Female	29	60,4	22	37,3	**0,017****
Male	19	39,6	37	62,7	
GA at birth (n, %)					
< 34 weeks	30	62,5	34	57,6	**0,609****
≥ 34 weeks	18	37,5	25	42,4	
Neonatal resuscitation (n, %)	15	31,2	8	13,5	0,027**
Apgar 5 minutes (n, %)					
< 7	5	10,4	1	1,7	**0,088****
≥ 7	43	89,6	58	98,3	
Parenteral nutrition (n, %)	42	87,5	14	23,7	0,000**
Time of ventilatory support, days (mean, interval)	8 (0-67)		4 (0-21)		0,033*
Weight at birth, grams (mean, interval)	1741 (765-2670)		1943 (1010-2635)		0,033*
CGA has breastfed 1st time, weeks (mean, interval)	35 (32-40)		35 (31-52)		0,924*
Weight when breastfed 1 st time, grams (mean, interval)	1975 (1475-2704)		2029 (1465-2580)		0,394*
CGA at discharge, weeks (mean, interval)	37 (34-48)		36 (33-39)		0,005*
Weight at discharge, grams (mean, interval)	2145 (1570-3656)		2092 (1660-2765)		0,354*
Duration of hospitalization, days (mean, interval)	31 (5-116)		18 (2-47)		0,003*

*t-Student; ** Chi-square; *** Fisher's Exact Test
Source: the author.

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statistically significant difference when compared to the prevalences between the two hospitals in the two moments (p=0,096 e p=0,095).

The prevalence of EBF of preterm infants in both hospitals was low at hospital discharge: 29.2% in UH; and 15.3% in PH.

Figure 1. Prevalence of exclusive breastfeeding in preterm infants at hospital discharge and in the first fortnight after discharge at two hospital institutions. Londrina, PR, Brazil, 2014
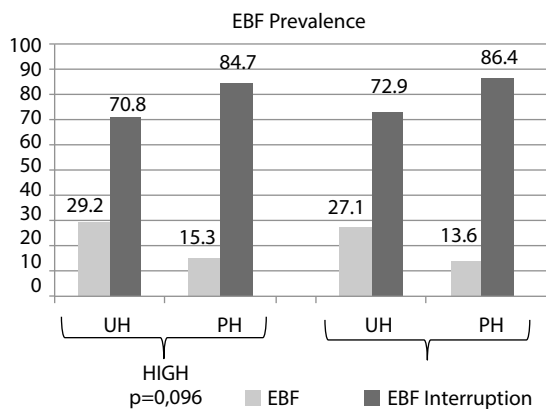
Source: *the author.*

When performing the bivariate analysis, the variables that presented p value <0.20 were incorporated into the multivariate model of Poisson Regression and were analyzed by the adjusted PR in relation to the interruption to the EBF at discharge (Table 2) and in the first fortnight after hospital discharge (Table 3).

The prevalence of interruption of EBF in the UH was 38% higher in vaginal delivery, that is, cesarean section was protective for the EBF of this population, as was the male gender, since the female had a prevalence of 82% higher to cease the EBF at hospital discharge. For the use of oxygen therapy, the prevalence of interruption of EBF was 41% higher for premature infants who used oxygen (Table 2).

In the PH, among the ten remaining factors of the bivariate model, six showed a statistically significant association for the discontinuation

of the EBF in the discharge, and variables are different when compared to the UH: history of preterm delivery; intercurrence at delivery; resuscitation in the delivery room; Apgar smaller than 7 in the 5th minute and; use of oxygen therapy.

The prevalence of interruption of EBF in UH after hospital discharge was 71% higher in cases of twinning, 41% higher in babies who used oxygen and 36% higher in mothers who had mammary trauma (Table 3).

In the PH, socioeconomic factors, such as parents not residing together and low maternal schooling, were associated with the interruption of EBF (50% and 57%) 15 days after discharge. The prevalence of non-EBF was 29% higher for preterm delivery, 62% higher for babies who had complications at delivery, 74% higher for babies who were reanimated in the delivery room, 41% for oxygen therapy, 14% for mammary trauma, 39% for Apgar less than 7 in the 5th minute and the lower the GA at birth, the greater the prevalence of the discontinuation of the EBF in the first fortnight at home.

DISCUSSION

Although there are published studies on the prevalence of BF in premature infants (6-7) and the prevalence of BF in Child-Friendly institutions (4-5,8), no research was found that evaluated the BF of premature infants in Child-Friendly institutions, such as the one proposed by this study.

Despite the fact that both institutions studied had the title of Baby-Friendly Hospital, when comparing them, clinically different prevalence was found, with caveats to the differences found between the two groups. The population studied in PH has a better socioeconomic status, since it is an institution that attends, in addition

Table 2. Factors associated with interruption of EBF in preterm infants at discharge in two child--friendly hospitals. Londrina, PR, Brazil, 2014.

| Factors | EBF interruption at hospital discharge | | | | | |
| | UH | | | PH | | |
	n (%)	Gross PR* CI 95%	Adjusted PR CI 95%	n (%)	Gross PR* CI 95%	Adjusted PR CI 95%
Sex of the NB		1,82 (1,10-1,98)	1,82 (1,19-1,79)		-	-
Female	25 (86,2)			20 (90,9)		
Male	9 (47,4)			30 (81,1)		
Neonatal resuscitation		-	-		1,21 (1,06-1,37)	1,47 (1,14-1,90)
Yes	11 (73,3)			8 (100,0)		
No	23 (69,7)			42 (82,3)		
Apgar in the 5th minute		-	-		1,18 (1,06-1,32)	0,79 (0,66-0,94)
< 7	3 (60,0)			1 (100,0)		
≥ 7	31 (72,1)			49 (84,5)		
Use of O2		0,66 (0,53-0,82)	0,59 (0,42-0,82)		0,84 (0,75-094)	0,59 (0,43-0,82)
Yes	28 (66,7)			48 (84,2)		
No	6 (100,0)			2 (100,0)		
VARIABLE MOTHER						
History of preterm birth		1,46 (1,19-1,79)	**		1,19 (1,06-1,34)	1,42 (1,10-1,84)
Yes	4 (100,0)			4 (100,0)		
No	30 (68,1)			46 (83,6)		
Intercurrences at birth		1,28 (0,92-1,79)	**		1,18 (1,06-1,32)	0,69 (0,53-0,90)
Yes	11 (84,6)			1 (100,0)		
No	23 (65,7)			49 (84,5)		
Type of delivery		0,73 (0,52-1,04)	0,62 (0,45-0,86)		0,83 (0,74-0,94)	**
Vaginal	16 (84,2)			4 (100,0)		
Cesarean section	18 (62,1)			46 (83,6)		
Mammary Trauma		-	-		1,23 (0,98-1,54)	**
Yes	01 (33,3)			28 (93,3)		
No	33 (73,3)			22 (75,8)		

* *Variables with p≤0.20 in the bivariate model*
** *Variables with p value>0.05 in the multivariate model.*
Source: *the author.*

to high risk pregnant women from the SUS, private and insured patients. The UH population has more precarious socioeconomic characteristics: a quarter of the mothers do not have conjugal partners; almost 30% have less than eight years of study; more than half worked outside the home and presented monthly income between one and two minimum wages. However, preterm infants in UH had a higher prevalence of EBF at discharge and after discharge.

Parents living together and maternal schooling over 8 years of schooling proved to be protective factors for the continuation of EBF after discharge from PH. Mothers who live without a partner are more likely to abandon early EBF than mothers with partners[8]. The mother's schooling time has been pointed out as one of the most important indicators to demonstrate mother's degree of enlightenment, which reflects in the understanding and access to the benefits of BF, especially on the risks of premature birth[8].

The need for oxygen therapy was a factor associated with interruption of EBF, both at dis-

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Table 3. Factors associated with interruption of EBF in preterm infants in the first fortnight after discharge at two hospital institutions. Londrina, PR, Brazil, 2014.

Factors	EBF interruption at home					
	UH			PH		
		Gross PR* CI 95%	Adjusted PR CI 95%		Gross PR* CI 95%	Adjusted PR CI 95%
GA at birth (mean)	32sem	-	-	33 sem	0,98 (0,98-0,99)	0,98 (0,97-0,99)
Neonatal resuscitation (n, %)		-	-		1,18 (1,05-1,33)	1,74 (1,25-2,42)
Yes	11 (73,3)			8 (100,0)		
No	24 (72,7)			43 (84,3)		
Apgar in the 5th minute (n, %)		-	-		1,16 (1,04-1,28)	0,61 (0,42-0,87)
< 7	3 (60,0)			1 (100,0)		
≥ 7	32 (74,4)			50 (86,2)		
Use of O2 (n, %)		0,69 (0,56-0,84)	0,59 (0,41-0,83)		0,86 (0,77-0,95)	0,59 (0,39-0,90)
Yes	29 (69,0)			49 (85,9)		
No	6 (100,0)			2 (100,0)		
VARIABLE MOTHER						
Parents live together (n, %)		-	-		1,16 (1,04-1,29)	0,50 (0,34-0,75)
Yes	25 (69,4)			49 (85,9)		
No	10 (93,3)			2 (100,0)		
Mother's education (n,%)		-	-		1,16 (1,04-1,29)	1,57 (1,17–2,12)
< 8 years of study	9 (81,9)			3 (100,0)		
≥ 8 years of study	26 (70,3)			48 (85,7)		
History of preterm birth (n, %)		-	-		1,17 (1,04-1,30)	1,29 (1,04-1,58)
Yes	3 (75,0)			4 (100,0)		
No	32 (72,7)			47 (85,4)		
Type of gestation (n, %)						
Single	10(100,0)	1,52 (1,20-1,91)	1,71 (1,25-2,34)	21 (94,4)	1,17 (0,98-1,41)	**
Two or more	25 (65,8)			30 (81,1)		
Intercurrences at birth (n, %)	10 (76,9)	-	-	1 (100,0)	1,16 (1,04-1,28)	0,38 (0,21-0,68)
Mammary Trauma (n, %)		1,40 (1,16-1,69)	1,36 (1,11-1,66)		1,38 (1,10-1,72)	1,14 (1,11-1,79)
Yes	3(100,0)			30 (100,0)		
No	32 (71,1)			21 (72,4)		

Variables with p≤0.20 in the bivariate model
**Variables with p value>0.05 in the multivariate model.*
Source: *the author.*

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charge and after hospital discharge, in UH and PH. Among the factors associated with non--continuity of EBF common to PH at discharge and post discharge were: history of previous preterm birth, intercurrences at delivery, need for resuscitation in the delivery room, and Apgar less than 7 at the 5th minute. Such factors increase the severity of the patient and may impair the initiation and maintenance of BF of prematurity. The postponement of the early initiation of BF leads the NBs to stay longer hospitalized, separated from their mothers, which makes it even more difficult to establish breastfeeding[8,9].

It is worth noting the differences in the level of severity of UH preterm infants. One-third of preterm infants needed reanimation in the delivery room; required twice as many days of ventilatory support/oxygen therapy compared to the PH preterm infants; remained on average twice as long hospitalized; and most of them needed parenteral nutrition. In addition, the minimum birth weight was 765 grams in UH, whereas in PH no baby was born weighing less than 1000 grams.

Although birth weight was not statistically significant in relation to the interruption of EBF in both institutions, unlike the GA at birth, which in PH demonstrated a relationship in the first fortnight after hospital discharge, it is worth noting that the practice of BF in premature infants is associated with both variables. The literature indicates that the lower the weight and/or lower the GA, the greater the difficulty in initiating and maintaining breastfeeding[9].

Although less premature birth is a favorable factor for EBF, it is possible to emphasize premature infants called late, that is, those with GA between 34 and 36 weeks and 6 days. This new grouping was based on the need to emphasize infants close to the term classification, but they are still premature and should therefore receive greater care when compared to full-term newborns[10].

Late preterm infants have been increasingly frequent and are significantly associated with increased neonatal morbidity and mortality when compared to full-term infants who are at increased risk of being associated with complications in the neonatal period[10,11]. They have been described with lower Apgar scores, higher risk of respiratory and eating problems, dehydration, thermal instability, poor sucking and swallowing, jaundice and hypoglycemia, and are more susceptible to rehospitalization in the first weeks of life[11].

Considering all these risks and intercurrences, late preterm infants require a set of interventions for the success of the EBF because they present limitations that require more attention and help to initiate and establish the BF than the full term, which are often neglected by the team[11].

In PH, whose population has better living conditions and has a health plan, the number of cesarean deliveries was significant. Regardless of the precise indication of the type of delivery, which was not the subject of this research, other studies have pointed out that interrupting pregnancy before 37 weeks of full length occurs more frequently in the private sector and, besides increasing the risks of morbidity and mortality of these babies, it is also a a factor that hinders the establishment of BF[1,12-13]. On the other hand, a study considers that emergency cesarean delivery, as in the case of a premature newborn, has no effect on BF[14]. In the present study, cesarean section had a protective factor for EBF in premature infants born in UH, given the condition of extreme prematurity.

The association of sex with BF, which has not yet been sufficiently explained, is curious. A Danish study involving 1,488 preterm infants, with a GA of 24 to 36 weeks, demonstrated by

the multivariate analysis that being a boy is a factor that contributed to the failure of the EBF at discharge[13], unlike the present study that found a positive association between the male gender and EBF on discharge in the UH.

The hospitalization time did not show statistical significance as a factor associated with the discontinuation of the EBF, as in another study that pointed to an increase in the chance of maintaining the EBF, according to the length of the hospital stay (6). Length of hospital stay increases the separation of the mother and her child and the risk of newborn infections and other clinical complications. In addition, it impairs the formation of the mother-baby bond, thus hindering the initiation and maintenance of BF[3,9].

On the other hand, prolonged hospitalization time may end up positively influencing breastfeeding if the mother and baby receive more care and support for BF in order to continue breastfeeding after discharge. It reinforces the organizational importance of services for breastfeeding care and support, which should also be given to hospitalized late preterm infants, but especially to severely ill infants admitted to neonatal units[9].

In the present study, a higher prevalence of EBF in PH was expected, for having a population of less severe and more socially developed characteristics; however, the opposite was found, although this difference is not statistically significant. Considering the differences between the groups, the small sample size and consequently some extended confidence intervals, the associated factors alone cannot explain this fact.

Corroborating with some authors that conventional BFHI is not sufficient to support the BF in this specific clientele[5], an analysis of the differences in the care of these two institutions may complement the analysis of the prevalence found.

Researchers from different countries have proposed the expansion of conventional BFHI to other care settings, taking into account the context of neonatal units, the peculiar needs of premature infants and/or seriously ill newborns, and the need for differential care to provide the necessary support to breastfeeding for this population[5]. This proposal for expansion to neonatal units, called **IHAC-Neo**, is based on three guiding principles to base support actions: focus and response to the individual needs of each family, actions based on family-centered care, and continuity of care between pre, peri and postnatal periods, as well as after hospital discharge[5].

The expansion of the IHN-Neo's Ten Steps differs essentially in the context of the neonatal units, five of which were structured differently: steps 3, 4, 5, 8 and 9. In this new proposal, step 3 recommends informing all pregnant women hospitalized with risk of premature birth or sick child under lactation management and breastfeeding. Early, systematic and continuous support for mothers to initiate dairy expression, especially when infants are not able to do so, are essential to overcome the physiological and emotional difficulties related to breastfeeding in the context of the neonatal unit[13].

Step 4 proposes the early encouragement of mother-to-baby skin-to-skin contact on a continuous and protracted basis (Kangaroo Care). Considering that it is not always possible to perform this contact still in the delivery room, given the gravity of the infant at that time, there is evidence that early, continuous and prolonged Kangaroo Care in the neonatal unit constitutes an effective intervention in the promotion of BF, producing prevalence generally higher than conventional care. Skin-to-skin contact stimulates milk production, increases breastfeeding duration, provides greater weight gain, decreases hospitalization time, and promotes affective bonding[15].

Step 5 proposes to demonstrate to mothers how to initiate and maintain lactation and establish the stability of the baby as the sole criterion for the early initiation of breastfeeding[5].

Step 8 advocates the encouragement of free demand or, where necessary, semi-demand for breastfeeding as a transitional strategy for premature or sick babies. Diversified ways are employed for this transition, given the divergences and difficulties of this management in practice[5].

Step 9, for its part, admits the use of alternative methods to replace the use of the bottle at least until the complete establishment of breastfeeding; in addition, nozzles or pacifiers should only be used in case of justified reasons. The use of nipple and pacifier protectors confers an increased risk of 2 to 3 times the interruption of the EBF at discharge[13].

In this perspective, it is necessary to describe and analyze some of the different practices found in the light of these recommendations, since the two institutions under study are hospitals with a Child-Friendly title and, theoretically, should already comply with, at least, the Ten Steps proposed by the conventional BFHI.

With the implantation of the nursing home in the neonatal unit of the UH, it was possible to organize a systematized, individualized and differentiated care for premature newborns and their families, assisting and supporting the EBF, through the program "A Network to Support the Premature Family", created since 2007. This project has been applying the three guiding principles of the IHAC-Neo[16]. The activities are based on family-centered care and are developed from birth throughout the hospitalization process, at home and in the outpatient clinic after discharge, to meet and support the needs of the families of premature babies born in the UH. In addition, it has the Human Milk Bank's role in supporting the mothers of premature babies for milking and maintenance of dairy production.

In the PH, despite having a multiprofessional team trained to promote and support the BF during the period of hospitalization, the follow-up of the preterm infant is not systematically organized in a specialized follow-up clinic after discharge. It occurs in the direct search of the family for the collection point/support room for breastfeeding of the institution's maternity and in the consultations with the pediatrician of the agreement or private health unit or in the Basic Health Units.

After discharge from the hospital, it is very common for mothers to face obstacles to continue breastfeeding their premature infant. It is imperative that these mothers receive support after discharge, since the transition to the home requires adaptation that is often considered a challenge, even if breastfeeding is well established[16]. It is recommended that health professionals assisting premature infants and their mothers should be better informed, since they would be more familiar with guiding families, anticipating and effectively resolving lactation limitations at home[15]. This happens at UH, where families are adopted by a resident nurse, who will provide greater bond, continuity and better support for the family from birth to one year of age.

It was observed, therefore, that specialized actions aimed at the support and incentive of the early initiation of BF during hospitalization and its continuity after hospital discharge to favor and maintain the EBF of the preterm infant are systematically implanted in the UH. The same can occur in PH, although not systematically, nor necessarily for all families.

In an agreement with the IHAC-Neo, practices that need to be incorporated in both institutions are recommended, such as: to increase mothers' permanence in the neonatal units without time restrictions; to favor early skin-to-

Monteiro ATA, Rossetto EG, Pereira KO, Lakoski MC, Birolim MM, Scochi CGS. Exclusive breastfeeding in preterm infants at child-friendly hospitals: a comparative study. Online braz j nurs [internet] 2018 Jan [cited year month day]; 16 (3):319-330. Available from: http://www.objnursing.uff.br/index.php/nursing/article/view/5627

-skin contact between mother and premature newborn on a continuous and prolonged basis; to promote the knowledge of pregnant women at risk of preterm birth on the premature baby's BF; not to set timetables for breastfeeding; encourage BF of free demand and semi-demand; to provide support to the onset and maintain lactation, instituting the clinical stability of the baby as the sole criterion for the early onset of suction; use alternative methods, such as bottle feeding, nipple protectors and pacifiers only with justified reasons; include and better prepare parents for the continuity of BF; and ensure post-discharge follow-up by a trained team to minimize the insecurity of this period and favor the continuity of the EBF.

It is worth remembering that late preterm infants, although not always hospitalized for a long time, also require more attention than those born at term to reach the EBF and its maintenance. Therefore, the family needs to receive more support and be prepared differently during hospitalization, with great efforts for the joint accommodation, as well as providing early specialized follow-up after discharge.

The Neo-BFHI strategy proposes this set of actions for this vulnerable population, to advance in the difficulties and to materialize the practice of the BF in premature babies.

CONCLUSION

The data obtained in this study allowed concluding that there was a low prevalence of EBF at discharge and 15 days after discharge in the two hospitals under study.

Factors associated with discontinuation of EBF at discharge were: type of delivery, sex of the newborn and use of oxygen therapy in the UH; and history of preterm birth, intercurrence at delivery, resuscitation in the delivery room, Apgar less than 7 in the 5th minute and use of oxygen in the PH.

Soon after hospital discharge, the variables associated with the discontinuation of EBF in UH were: gestation type, use of oxygen therapy and mammary trauma. PH, in turn, was associated: companion, mother's education, history of preterm birth, complication of labor, Apgar less than 7 in the 5th minute, resuscitation in the delivery room, GA at birth, use of oxygen therapy and mammary trauma.

Despite the associations found, it was also concluded that compliance with the steps of the conventional BFHI is not sufficient to serve this vulnerable population and other specific actions may interfere in the BF process of the preterm.

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