The joint effect of twinning and prematurity on exclusive breastfeeding at hospital discharge

O efeito conjunto de gemelaridade e prematuridade no aleitamento materno exclusivo na alta hospitalar

El efecto conjunto de la gemelaridad y la prematuridad en la lactancia materna exclusiva al momento del alta hospitalaria

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ABSTRACT
Objective: to estimate the prevalence of Exclusive Breastfeeding (EBF) in preterm twins and to investigate the effect of twin and preterm birth on EBF at hospital discharge. **Method**: prospective cohort of newborns in an institution located in Rio de Janeiro, from March 13, 2017, to October 12, 2018. Data collected through a questionnaire and medical records. A DAG was used to build the conceptual model, exploratory data analysis and multiple logistic regression. **Results**: prevalence of EBF at hospital discharge of preterm twins of 47.8%. Preterm infants were more likely to not be on EBF at hospital discharge. Non-twins were more likely to not be on EBF at hospital discharge. **Conclusion**: just over half of preterm twins were not on EBF at hospital discharge. Preterm infants had a greater chance of not being on EBF. Preterm non-twins were more likely to not be on EBF.
Descriptors: Breast Feeding; Infant, Premature; Twins; Patient Discharge.

RESUMO
Objetivo: estimar a prevalência de Aleitamento Materno Exclusivo (AME) entre gemelares pré-termos e investigar o efeito de nascer gemelar e pré-termo no AME na alta hospitalar. **Método**: coorte prospectiva de recém-nascidos em uma instituição localizada no Rio de Janeiro, no período de 13 de março de 2017 a 12 de outubro de 2018. Dados coletados em questionário e prontuário médico. Foi utilizado DAG para construção do modelo conceitual, análise exploratória dos dados e regressão logística múltipla. **Resultados**: a prevalência de AME na alta hospitalar de gemelares pré-termos foi de 47,8%. Pré-termos apresentaram maior chance de não estarem em AME na alta hospitalar. Não gemelares apresentaram maior chance de não estarem em AME na alta hospitalar. **Conclusão**: pouco mais da metade dos gemelares pré-termo não estavam em AME na alta hospitalar. Prematuros tiveram maior chance de não estarem em AME. Não gemelares pré-termo apresentaram maior chance de não estarem em AME.
Descritores: Aleitamento Materno; Recém-Nascido Prematuro; Gêmeos; Alta Hospitalar.

RESUMEN
Objetivo: estimar la prevalencia de Lactancia Materna Exclusiva (LME) entre gemelos prematuros y investigar el efecto de nacer gemelo y prematuro en la LME al momento del alta hospitalaria. **Método:** cohorte prospectiva de recién nacidos en una institución ubicada en Rio de Janeiro, entre 13//marzo/2017 y 12/octubre/2018. Los datos se recolectaron mediante cuestionario y expediente médico. Se utilizó DAG para la construcción del modelo conceptual, análisis exploratorio de los datos y regresión logística múltiple. **Resultados:** la prevalencia de LME en el alta hospitalaria de gemelos prematuros fue del 47,8%. Los prematuros tuvieron mayor probabilidad de no estar en LME en el alta hospitalaria. Los no gemelares tuvieron mayor probabilidad de no estar en LME en el alta hospitalaria. **Conclusión:** poco más de la mitad de los gemelos prematuros no estaban en LME en el alta hospitalaria. Los prematuros tuvieron mayor probabilidad de no estar en LME. Los no gemelos prematuros presentaron mayor probabilidad de no estar en LME.
Descriptores: Lactancia materna; Recien Nacido Prematuro; Gemelos; Alta Hospitalaria.

INTRODUCTION

Breastfeeding is one of the most important strategies for reducing neonatal and infant mortality[1,2]. Worldwide, investment in breastfeeding practices could prevent more than 800,000 deaths per year in children under the age of 5[3]. The benefits of long-term breastfeeding for children's health are numerous[,5,6].

However, today in the world, breastfeeding rates are still lower than they need to be in order to promote children's health. Only 41% of children under six months were exclusively breastfed and 45% of these children were breastfed until the age of two[7]. In Brazil, in 2020, the prevalence of Exclusive Breastfeeding (EBF) in children under six months was 45.7%[8]. Such estimates show that we are still below the target set by the WHO for the year 2025[9].

Multiple pregnancies can carry great risks, with around 50% of premature births in multiple pregnancies[10,11], Such an event can lead to periods of hospitalization so that interventions can be carried out to maintain the life of these newborns[12]. Such interventions can affect breastfeeding practices, as they can cause this group to remain in neonatal care units for longer periods of time, separated from their mothers[13].

Studies around the world show that twins have lower rates of exclusive breastfeeding up to six months: 22.6%[14]. In Brazil, a survey carried out in 2018 showed that the prevalence of EBF up to six months of age in this group is 8.3%[14].

Prematurity brings with it clinical complications that require a complex adaptation of newborns to the extrauterine environment, such as instability of physiological and neurological functions, which make them a group vulnerable to difficulties with adequate nutrition and consequently implications for development[15]. This set of complications increases the length of hospital stay, as the newborn ends up needing intensive care and the technology of Neonatal Intensive Care Units (NICUs) to maintain life[16]. This condition often leads to the separation of the mother-child binomial, favoring early weaning[17].

In 2020, a cohort study was carried out in Brazil with 1003 children in a national reference hospital for high neonatal and infant risk, which showed the prevalence of breastfeeding in preterm infants at hospital discharge, where 41.4% of preterm infants were being exclusively breastfed at hospital discharge, and of these, only 6.1% were exclusively breastfed until the sixth month of life[18,19].

Newborns who are breastfed in the immediate puerperium and at hospital discharge are more likely to be exclusively breastfed up to six months of age and complementarily breastfed up to 12 months[18,20,21]. Evaluating the type of feeding of newborns at this time is extremely useful for assessing the quality of care in health services and evaluating interventions to promote breastfeeding[22].

The objectives of this study were to estimate the prevalence of exclusive breastfeeding in preterm twins at hospital discharge and to investigate the effect of being born as a twin and preterm on exclusive breastfeeding at hospital discharge in a national reference institution for high fetal, neonatal and infant risk.

METHODOLOGY

This is an analysis of data from a prospective cohort study of newborns at a national reference institution for high risk, located in Rio de Janeiro, from March 13, 2017 to October 12, 2018[19]. The cohort data was collected in three stages (during hospitalization, the first visit after discharge and monthly until the sixth month of life). This is a cross-sectional analysis from a longitudinal study. The data relates to hospitalization and was collected in the maternity ward, through face-to-face interviews with the mothers and extracted from the hospital records.

The institution of choice for the study is part of the national and global network of Human Milk Banks (HMB), which carries out activities related to controlling the safety and quality of donated human milk, as well as promoting, supporting and sustaining breastfeeding. The institute has also been accredited as a Baby-Friendly Hospital since 1999[19]. In this highly complex institution, approximately 1,000 children are born every year. Every year, approximately 22% of newborns are born preterm and 15% of twins[18].

For this study, we selected infants hospitalized in the hospital service sectors (NICU, Conventional Neonatal Intermediate Care Unit (NICUco), Neosurgical Intensive Care Unit (NICUc) and Joint Accommodation (JA). All neonates born or transferred to the IFF/FIOCRUZ up to seven days old, the period established by the Ministry of Health as the best time to support breastfeeding, were recruited for the cohort.

Children were excluded if their mothers were unable to breastfeed due to HIV or HTLV; newborns with congenital pathologies incompatible with life, newborns with anencephaly; newborns with a clinical indication that they would not receive an oral diet at any stage of life; indication of gastrostomy in the first week of life; maternal death and neonatal death of less than five days; foreign-speaking mothers who did not understand Portuguese and children whose mothers refused to take part in the study or whom the research assistant could not contact[19]. In addition, extreme preterm, trigeminal and quadrigeminal newborns were excluded from this study.

Two categories were considered for analyzing the dependent variable (outcome - type of breastfeeding at hospital discharge), following concepts established by the WHO[1] about breastfeeding: Exclusive Breastfeeding (EBF)

and Non-Exclusive Breastfeeding (NBE), which includes all other forms of breastfeeding: Complementary Breastfeeding (CMBF) and Artificial Breastfeeding (ABF).

Prematurity among twin newborns was defined as the main exposure. To analyze this exposure, we considered four categories identified as: non-twin at term, twin at term (twins born at 37 or more weeks of gestation), non-twin preterm and twin preterm (twins born at less than 37 weeks of gestation).

To build the conceptual model for this study, a Directed Acyclic Graph (DAG) was used to investigate the effect of prematurity among twins and factors related to breastfeeding at hospital discharge in the population of interest (Figure 1).
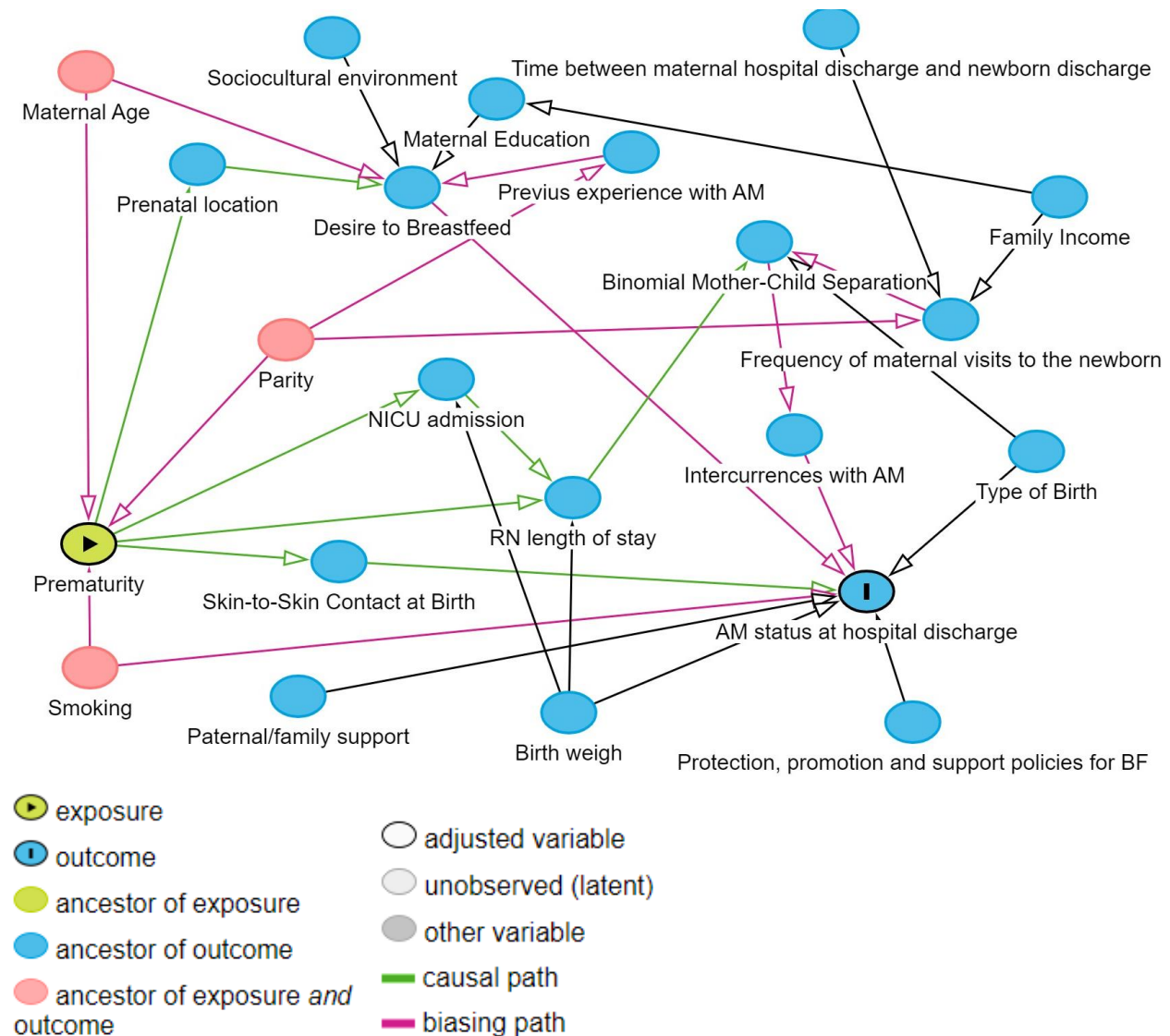

Figure 1 – DAG: Factors related to breastfeeding at hospital discharge to investigate the effect of prematurity among grandparents on breastfeeding at hospital discharge.

The DAG identified the following potential confounders in the relationship between prematurity and breastfeeding status at hospital discharge in twins: maternal age, smoking during pregnancy and parity. The other components used in this model are contextual, institutional and individual determinants proposed in the original cohort study[19].

The results of the categorical variables are presented in frequency tables. The association of categorical variables according to outcome and exposure was verified using Pearson's chi-square test. Multiple logistic regression was used

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to assess the effect of twinning and prematurity on breastfeeding. The effects were interpreted by the Odds Ratio (OR) of the simple (Crude OR) and multiple (Adjusted OR) models and their respective 95% confidence intervals (CI).

The variables included in the multiple model were selected using the minimum adjustment set proposed by the DAG. The analysis was carried out using the tab, knitr, tableone, epiDisplay, nnet, dplyr and zoo packages in the R software, version 4.1.3[23]. Due to the possible bias introduced by the exclusive use of p-values (<0.05) for decision-making, confidence intervals of 2.5% and 97.5% were provided for the study's point estimates[24].

The main study was approved in February 2017, by the Ethics and Research Committee (CEP) IFF/FIOCRUZ, report number 1,930,996, respecting all the requirements established by Resolution nº 466/12 of the National Health Council (CNS). An amendment was sent and approved to the respective CEP with the new objectives (report number 4,653,123). Mothers were interviewed after signing the Free and Informed Consent Form (FICF) or Free and Informed Assent Form.

RESULTS

The newborn cohort has a population of 996 newborns. Table 1 shows the frequency distribution of the main characteristics of the participants in this study.

Table 1: Characteristics of 996 newborns in a high-risk institution. Rio de Janeiro, RJ, Brazil, 2018.

Characteristics		Non-twin at term	No preterm twins	Twin at term	Preterm twins	p-value
n(%)		744 (74.1)	111 (11)	49 (4.9)	92 (10.1)	
Breastfeeding status at hospital discharge	EBF	533 (71.6)	41 (36.9)	26 (53.1)	44 (47.8)	<0.001
	No EBF	211 (28.4)	70 (63.1)	23 (46.9)	48 (52.2)	
Gestational age (mean (SD))		38 (2.2)	34.21 (2.17)	38 (2.2)	34.54 (1.97)	<0.001
Length of stay (median)		7.83 (4)	26.23 (18)	5.04 (4.5)	15.87 (10)	<0.001
Place of prenatal care	IFF	416 (55.8)	39 (40.7)	44 (91.7)	74 (82.2)	>0.001
	Private practice	26 (3.4)	13 (7.4)	2 (4.2)	6 (6.7)	
	PCC	302 (40.5)	59 (51.9)	3 (4.4)	10 (11.1)	
Gender	Female	363 (48.8)	42 (37.8)	26 (53.1)	48 (52.2)	0.116
	Male	381 (51.2)	69 (62.2)	23 (46.9)	44 (47.8)	
Student mother	No	647 (87.3)	96 (86.5)	45 (95.7)	86 (93.5)	0.119
	Yes	94 (12.7)	15 (13.5)	2 (4.3)	6 (6.5)	
Maternal age range	Under 20 years old	190 (14.7)	21 (18.9)	2 (4.3)	5 (5.4)	0.011
	Between 20 and 34 years old	502 (67.6)	69 (62.2)	41 (87.2)	78 (77.2)	
	Over 35 years old	132 (17.8)	21 (18.9)	4 (8.5)	17 (18.5)	
Smoking mother	No	723 (97.4)	100 (90.1)	45 (95.7)	86 (93.5)	0.001
	Yes	19 (2.6)	11 (9.9)	2 (4.3)	6 (6.5)	
Prior breastfeeding	Multiparous - with prior BF	317 (43.5)	48 (44.9)	27 (57.4)	44 (50)	0.466
	Multiparous - without prior BF	33 (4.5)	7 (6.5)	2 (4.3)	3 (3.4)	
	Primiparous	378 (51.9)	52 (48.6)	18 (38.3)	41 (46.6)	
Family income	2 or more SM	378 (62)	48 (55.2)	23 (51.1)	48 (60.8)	0.355
	Less than 2 SM	232 (38)	39 (44.8)	22 (48.9)	31 (39.2)	
Skin-to-skin contact during birth	No	337 (45.6)	83 (74.8)	35 (72.9)	70 (76.1)	<0.001
	Yes	402 (54.4)	28 (25.2)	13 (27.1)	22 (23.9)	
Guidance on BF in prenatal care	No	205 (27.7)	50 (45)	9 (18.4)	16 (17.4)	<0.001
	Yes	536 (72.3)	61 (55)	40 (81.6)	76 (82.6)	
Mother-child separation for >12 hours	No	586 (79.2)	34 (30.6)	43 (87.8)	47 (51.1)	<0.001
	Yes	154 (20.8)	77 (69.4)	6 (12.2)	45 (48.9)	
Type of birth	Cesarean section	379 (50.9)	68 (61.3)	45 (91.8)	87 (94.6)	<0.001
	Transpelvian	365 (49.1)	43 (38.7)	4 (8.2)	5 (5.4)	
BF's desire	Strong desire	695 (93.5)	103 (92.8)	42 (85.7)	85 (92.4)	0.025
	weak desire	48 (6.5)	8 (7.2)	7 (14.3)	7 (7.6)	
Maternal education	Until elementary school	261 (35.1)	52 (53.2)	30 (63.8)	36 (39.1)	<0.001
	High school or more	482 (64.9)	59 (53.2)	17 (36.2)	56 (60.9)	
Maternity and work leave	Does not work	393 (54)	67 (60.4)	20 (42.6)	5 (63)	0.017
	Works with LM 4 months	185 (25.4)	27 (24.3)	16 (34)	19 (20.7)	
	Works with LM 6 months	28 (3.8)	5 (4.5)	0 (0)	7 (7.6)	
	Work from home	34 (4.7)	2 (1.8)	4 (8.5)	2 (2.2)	
	Works without LM	88 (12,1)	10 (9)	7 (14,9)	6 (65)	

*BF = Breastfeeding; EBF = Exclusive Breastfeeding; IFF = Instituto Fernandes Figueira Institute; PCC = Primary Care Center; MW = Minimum Wage; ML = Maternity Leave. *Minimum wage 2017 (R$937.00)

The prevalence of EBF at hospital discharge in preterm twins was 47.8%. In contrast, non-twin preterm infants had a prevalence of 36.9% of SMA at hospital discharge. Both groups had a mean gestational age of 34 weeks. The median length of stay for preterm non-twins was longer (18 days) than for preterm twins (10 days).

Table 2 shows that the preterm twins who were on SMA at hospital discharge had a mean gestational age of 35 weeks and a median hospital stay of 8 days, while the preterm twins who were not on SMA had a mean gestational age of 33 weeks and a median hospital stay of 14 days.

Table 2: Characteristics of 141 twins in a high-risk institution. Rio de Janeiro, RJ, Brazil, 2018.

Characteristics		Pre-term twins			Full-term twins		
		EBF n (%)	No EBF n(%)	p-value	EBF n(%)	No EBF n(%)	p-value
		44 (47.8)	48 (52.28)		26 (53.3)	23 (46.9)	
Gestational age (mean (SD))		35.12 (1.55)	33.90 (2.11)	0.002	38 (100)	38 (100)	0.004
Length of stay (median)		10.14 (8)	20.53 (14)	0.002	6.04 (4)	4.48 (4)	0.065
Place of prenatal care	IFF	36 (83.7)	39 (79.6)	0.390	23 (85.2)	21 (91.3)	0.121
	Private practice	4(9.3)	2 (4.1)		2 (7.4)	0 (0)	
	PCC	3 (7)	8 (12.4)		2 (7.4)	2 (8.7)	
Sex	Female	26 (60.5)	22 (44.9)	0.200	13 (48.1)	13 (56.5)	0.759
	Male	17 (39.5)	27 (55.1)		14 (51.9)	10 (43.5)	
Study	No	39 (90.7)	47 (95.9)	0.556	23 (85.2)	23 (100)	0.157
	Yes	4 (9.3)	2 (4.1)		4 (14.8)	0 (0)	
Maternal age range	Under 20 years old	3 (7)	2 (4.1)	0.511	4 (14.8)	0 (0)	0.187
	Between 20 and 34 years old	34 (79)	36 (73.5)		22 (81.5)	20 (87)	
	Over 35 years old	6 (14)	11 (22.4)		1 (3.7)	3 (13)	
Smoker	No	43 (100)	43 (87.5)	0.051	23 (85.2)	23 (100)	0.157
	Yes	0 (0)	6 (12.2)		4 (14.8)	0 (0)	
Prior breastfeeding	Multiparous - with prior AM	20 (48.8)	24 (51.1)	0.224	15 (55.6)	13 (56.5)	0.220
	Multiparous - without prior AM	0 (0)	3 (6.4)		2 (7.4)	2 (8.7)	
	Primiparous	21 (51.2)	20 (42.6)		10 (37)	8 (34.)	
Family income	2 or more EM	30 (78.9)	19 (46.3)	0.006	12 (44.4)	12 (52.2)	0.504
	Less than 2 SM	8 (21.1)	22 (53.7)		15 (55.6)	11 (47.8)	
Skin-to-skin contact during birth	No	28 (65.1)	42 (85.7)	0.039	19 (70.4)	17 (73.9)	0.474
	Yes	15 (34.9)	7 (14.3)		8 (29.6)	5 (21.7)	
Guidance on BF in prenatal care	No	6 (14)	10 (20.4)	0.590	4 (14.8)	5 (21.7)	0.790
	Yes	37 (86)	39 (79.6)		23 (85.2)	18 (78.3)	
Mother-child separation for >12 hours	No	27 (62.8)	19 (38.8)	0.037	23 (85.2)	22 (95.7)	0.449
	Yes	16 (37.2)	30 (61.2)		4 (14.8)	1 (4.3)	
Type of birth	Cesarean section	38 (88.4)	49 (100)	0.046	23 (85.2)	23 (100)	0.161
	Transpelvian	5 (11.6)	0 (0)		4 (14.8)	0 (0)	
Desejo de AM	Strong desire	41 (95.3)	49 (100)	0.797	26 (96.3)	16 (69.6)	0.029
	Weak desire	2 (4.7)	0 (0)		1 (3.7)	7 (30.4)	
Maternal education	Until elementary school	16 (37.2)	19 (38.8)	1.000	17 (63)	14 (60.9)	0.360
	High school or more	27 (62.8)	30 (61.2)		10 (37)	9 (39.1)	
Maternity and work leave	Does not work	21 (48.8)	38 (77.6)	0.012	9 (33.3)	10 (43.5)	0.685
	Works with ML 4 months	12 (27.9)	6 (12.2)		10 (37)	7 (30.4	
	Works with ML 6 months	6 (14)	1 (2)		2 (7.4)	0 (0)	
	Work from home	0 (0)	2 (4.1)		2 (7.4)	2 (8.7)	
	Works without ML	4 (9.3)	2 (4.1)		4 (14.8)	4 (17.4)	

*BF = Breastfeeding; EBF = Exclusive Breastfeeding; IFF = Fernandes Figueira Institute; PCC = Primary Care Center; MW = Minimum Wage; ML = Maternity Leave. *Minimum wage 2017 (R$937.00)

Most mothers of preterm twins who were not breastfeeding at hospital discharge were aged between 20 and 34; more than half of this group had a high school education or more and were multiparous with previous experience of breastfeeding. Most of the mothers of preterm twins reported a strong desire to breastfeed and less than a third of this group were smokers.

More than three-quarters of the mothers of preterm twins who were breastfeeding and not breastfeeding at hospital discharge had prenatal care at the IFF and had received guidance on breastfeeding during this period.

Skin-to-skin contact in the delivery room was not practiced with most preterm twins who were not breastfeeding at the time of discharge. In addition, more than half of this same group were separated from their mothers for more than 12 hours during their hospitalization. The entire population of preterm twins in Non-EBF at hospital discharge were born by cesarean section.

Table 3 shows the final model obtained by multiple logistic regression, indicating the crude and adjusted Odds Ratio values, with their respective confidence intervals, for the groups of newborns in the study.

Table 3: Odds Ratio (OR) of exclusive breastfeeding among birth cohort participants. Rio de Janeiro, RJ, Brasil, 2018.

	OR	2.5%	97.5%	ORa	2.5%	97.5%
Pre-term non-twin	4.31	2.86	6.59	4.32	2.86	6.61
Full-term twin	2.23	1.24	4.01	2.42	1.33	4.39
Pre-term twin	2.76	1.78	4.29	2.73	1.75	4.25

*Multiple logistic model adjusted by the set of variables suggested by the DAG (maternal age, smoking and parity)
**Odds Ratio (OR)

Preterm infants (twins and non-twins) were more likely not to be on EBF at hospital discharge when compared to the group of full-term newborns. And among preterm infants, non-twins were more likely not to be on EBF at hospital discharge than twins.

DISCUSSION

Just over half of preterm twins were not on EBF at hospital discharge. As expected, preterm newborns were more likely not to be on EBF when compared to full-term newborns. On the other hand, unlike what has been seen in the literature, preterm non-twin newborns were more likely not to be on EBF when compared to the group of preterm twin newborns.

This study showed that prematurity can affect breastfeeding rates in preterm twins at hospital discharge. This reinforces the results of previous studies, in which the authors[25,26] state that preterm birth is associated with low rates of EBF at hospital discharge.

This is why it is necessary to reinforce the need for protocols to be adopted to promote and encourage breastfeeding in hospitals where this public is cared for. In addition, the country's public health policies must ensure that conducts aligned with best practices are implemented in everyday care.

Smoking during pregnancy was not significant in relation to the feeding practices of preterm twins on discharge from hospital. Unlike other studies, there was no significant difference between parity and feeding practices of preterm and term twins; thus, both primiparous and multiparous women (with and without experience) had very similar SMA and Non-SMA rates. Previous studies[27,28,29] show that multiparous women tend to have higher rates of breastfeeding at hospital discharge, due to previous positive experiences.

Family income proved to be an important factor in the feeding practices of preterm twins discharged from hospital in this study. Women with a family income of two or more salaries had a higher prevalence of EBF at hospital discharge when compared to women with low family income. These results are in line with what is observed in clinical practice: women with low family incomes usually have a lower frequency of visits to hospitalized NBs, which can lead to them not breastfeeding at hospital discharge due to mother-child separation and possible problems related to breastfeeding during this period.

With regard to the results related to parity and family income, it is worth highlighting the need to use strategies during prenatal care to promote and protect breastfeeding, such as group counseling with pregnant women (conversation circles)[33]. In these health education activities, it is necessary to emphasize the benefits of breastfeeding; it is a matter of setting up a support network where women can find help with possible problems related to breastfeeding, thus allowing them to share their experiences, as well as demystifying myths and taboos that permeate the breastfeeding of twins and preterm infants.

The type of delivery was a significant factor in this study. At hospital discharge, all preterm twins who were not on EBF had cesarean sections. However, it was not possible to assess the causes of cesarean deliveries. However, these results reinforce data found in previous studies, in which authors argue that cesarean delivery can lead to mother-child separation, which results in few opportunities for the early initiation of breastfeeding[34,35]

Length of stay was an important factor in this study. Non-preterm twins had a median hospital stay of 18 days and preterm twins had a median of ten days. It is important to note that the median was higher in the group of preterm non-twins. These results reinforce what other authors[20,28,36-38,] highlight in their studies: that prolonged hospitalization can have negative effects on breastfeeding when compared to newborns with a shorter hospitalization time. The mother's difficulty in accessing and staying in the hospitalization unit, the invasive procedures needed to care for this newborn, and the mother-child separation throughout this period can lead to early weaning[33,34,35].

When we talk about the effect of being born twin and preterm, the results of this study reveal that these factors represent risk factors for SMA at hospital discharge. Contrary to popular belief, non-twin and preterm NBs were more likely not to be in SMA at hospital discharge when compared to preterm twins. This result can be explained by the longer length of hospital stay of the singleton and preterm NBs in this study. Clinical practice at this hospital shows that preterm twins have a higher prevalence of SMA at hospital discharge than non-preterm twins. Further studies are needed with a larger sample of twins and preterm infants to better investigate the effect of hospitalization time on breastfeeding in preterm twins.

There are gaps in studies verifying the prevalence of breastfeeding in preterm twins. As such, this study can contribute to the construction of new studies involving breastfeeding in high-risk groups, as well as guiding strategies to promote and protect breastfeeding in preterm twins.

Study limitations

Finally, it is important to highlight some of the limitations of this study. This is a study with a very specific population, and the sample cannot be categorized by prematurity classification separately, as there was not a sample of sufficient size to allow for adequate variability in the population in relation to all the categories investigated. It was therefore necessary to aggregate the entire population into a single category. Therefore, studies with larger samples may favor more accurate and comprehensive results.

CONCLUSION

Considering the results of this study, it can be concluded that being born as a twin and preterm is a risk factor for breastfeeding at hospital discharge. It is therefore recommended that breastfeeding practices and interventions be implemented as soon as possible to improve breastfeeding rates at hospital discharge in this population.

Health professionals need to have specific skills and expertise in breastfeeding management in order to care for this population. In addition, it is important that the health institutions that serve this specific population use practices to encourage early breastfeeding. In addition to studies with a larger sample of this population for more accurate results.

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Authors' contributions