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Skin-to-skin contact and breastfeeding in the first hour of life during COVID-19

Contato pele a pele e amamentação na primeira hora de vida em tempos de COVID-19

Contacto piel a piel y lactancia materna en la primera hora de vida en tiempos de COVID-19

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ABSTRACT

Objective: to determine the prevalence and analyze the factors associated with early skin-to-skin contact and breastfeeding in the first hour of life in times of COVID-19. **Method:** cross-sectional study carried out in a municipal hospital in the coast of Rio de Janeiro, using data from medical records. The Chi-Square Test and Logistic Regression were used. Research ptotocol approved by the Ethic Committee. **Results:** among 187 medical records, the prevalence rates of skin-to-skin contact and breastfeeding in the first hour were, respectively, 36.7% and 63.2%. Postpartum women with one or two children and female newborns had more chances of the baby not being placed at the breast. Breastfeeding in the first hour was approximately 4.5 times greater among newborns placed in skin-to-skin contact. **Conclusion:** the prevalence of the analyzed practices was not satisfactory. Number of previous children and the baby's sex remained associated with skin-to-skin contact. The practices analyzed were associated with each other.

Descriptors: Breast Feeding; Delivery Rooms; Infant, Newborn; Rooming-in Care.

RESUMO

Objetivo: determinar a prevalência e analisar os fatores associados ao contato pele a pele precoce e à amamentação na primeira hora de vida em tempos de COVID-19. **Método:** estudo transversal realizado em hospital municipal na baixada litorânea do Rio de Janeiro, mediante dados de prontuários. Adotaram-se teste de Qui-Quadrado e Regressão Logística. Protocolo de pesquisa aprovado pelo Comitê de Ética em Pesquisa. **Resultados**: entre 187 prontuários, a prevalência do contato pele a pele e da amamentação na primeira hora foram, respectivamente, 36,7% e 63,2%. Puérperas com um ou dois filhos e recém-nascidos do sexo feminino apresentaram mais chances de o bebê não ser colocado ao seio. A amamentação na primeira hora foi aproximadamente 4,5 vezes maior entre recém-nascidos colocados em contato pele a pele. **Conclusão:** as prevalências das práticas investigadas foram insatisfatórias. A quantidade de filhos anteriores e o sexo do bebê mativeram-se associados ao contato pele a pele. As práticas analisadas apresentaram associação entre si.

Descritores: Aleitamento Materno; Salas de Parto; Recém-Nascido; Alojamento Conjunto.

RESUMEN

Objetivo: determinar la prevalencia y analizar los factores asociados con el contacto temprano piel a piel y la lactancia en la primera hora de vida en tiempos de COVID-19. **Método:** estudio transversal realizado en un hospital municipal de la costa de Río de Janeiro, basado en registros médicos. Se adoptaron la prueba Chi-Cuadrado y la Regresión logística. El Comité de Ética en Investigación aprobó los protocolos utilizados. **Resultados:** entre 187 registros, la prevalencia de contacto piel a piel y lactancia materna en la primera hora fue, respectivamente, el 36,7% y el 63,2%. Las puérperas con uno o dos hijos y las niñas recién nacidas tienen más probabilidad de que su bebé no le sea puesto en el pecho. La lactancia en la primera hora fue aproximadamente 4,5 veces más alta entre los recién nacidos puestos en contacto piel a piel. **Conclusión:** la prevalencia de las prácticas investigadas no fue satisfactoria. El número de hijos anteriores y el sexo del bebé permanecieron asociados con el contacto piel a piel. Las prácticas analizadas se asociaron entre sí.

Descriptores: Lactancia Materna; Salas de Parto; Recién Nacido; Alojamiento Conjunto.

INTRODUCTION

The World Health Organization (WHO), the Brazilian Ministry of Health (*Ministério da Saúde*, MS) and the American Academy of Pediatrics (AAP) recommend exclusive breastfeeding (EBF) for the first six months of life and supplemented until two years of age or older[1-4]. Breast milk is the most complete and adequate food option for the infant, as its components are essential for children's development and growth. It also offers protection and immunity against infections, diarrhea, respiratory infections and allergies, in addition to promoting the mother-child bond[5,6].

There was an increasing trend in the prevalence of EBF in Brazil over a 34-year period (1986-2020), rising from 2.9% to 45.7%, equivalent to an increase of approximately 1.2% per year. However, regional discrepancies were evidenced, this practice being more frequent in the South region (53.1%) and less frequent in the North region (38.0%)[7]. In addition, in 2012, the 56th World Health Assembly defined six global nutrition goals for 2025, including increasing the rate of EBF in the first six months of life to at least 50%[8], which Brazil has not yet achieved.

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In early 2020, the *Coronavirus Disease 2019* (COVID-19) pandemic arrived in Brazil, reinforcing doubts and difficulties regarding the care provided to newborns from the delivery room to the home, including the breastfeeding practice[9]. However, according to the WHO, recommendations on infant feeding should be maintained in the face of COVID-19; therefore, breast milk substitutes and artificial nipples (baby bottles or pacifiers) should not be promoted in maternity hospitals[10].

The Brazilian MS and the Brazilian Society of Pediatrics (*Sociedade Brasileira de Pediatria*, SBP) also recommend that, in case of infection by the *Severe Acute Respiratory Syndrome Coronavirus* 2 (SARS-CoV-2), breastfeeding be maintained, provided that the mother has the will to breastfeed and is in adequate clinical conditions[11,12]. In the meantime, hand hygiene before and after each feeding is recommended, as well as the use of a mask[9,11-14].

In normal times, based on the recommendations by the WHO and the United Nations International Children's Emergency Fund (UNICEF), it is recommended that newborns be placed undressed in skin-to-skin contact with their mothers immediately after birth for at least one hour, encouraging them to notice when their infants are ready to be fed and to provide help if needed[6]. These associated practices (early skin-to-skin contact and breastfeeding in the first hour of life) correspond to the fourth step of the Baby-Friendly Hospital Initiative (BFHI) and corroborate to the increase in EBF prevalence and duration, in addition to reducing neonatal and infant morbidity and mortality[6,15].

Other benefits of these practices consist in promoting the bond between mother and infant, thermal regulation, stabilization of breathing and preservation of the acid-base balance in the newborn's adaptation to extrauterine life, as well as stimulating the sucking reflex, preventing neonatal hypoglycemia and bacterial colonization by the mother's cutaneous microbiota[6,15-17]. The likelihood of the child consuming colostrum, which is highly nutritious, easily digestible and contains considerable immunological properties, is also increased[3].

Global analyses indicate that only approximately half of the newborns initiate breastfeeding in their first hour of life[1]. In some cases, health institutions follow erroneous actions, separating the mothers from their children immediately after birth and/or feeding the infant with other food options and/or drinks. Thus, in 2017, approximately 78 million newborns worldwide await more than an hour to be put to breastfeed. Therefore, only two out of five infants (42%) were put to breastfeed during their first hour of life[18].

In the pandemic context, these practices were directly affected, to the extent that, in Brazil, in cases of mothers with suspected or confirmed COVID-19, it is recommended that skin-to-skin contact be suspended in the delivery room. Then, permanence in the incubator may be necessary until transfer to the neonatal unit or until the binomial is transferred to Rooming-In. In these cases, breastfeeding and skin-to-skin contact should be postponed until hygiene care and measures to prevent contamination of the newborn are adopted, such as bathing the puerperal mother and changing masks, caps, nightgowns and sheets[9,12].

Adherence to these practices was already below the recommended rates before the pandemic, with an increased risk for decline in the current scenario, including the insecurity regarding exposure to SARS-CoV-2 that has led some researchers and health professionals to discourage breastfeeding[19]. Therefore, it is necessary to investigate the prevalence and factors associated with its occurrence in different care scenarios in pandemic times, in order to support educational and care policies and strategies to increase the breastfeeding rates in Brazil.

Thus, the objective was to determine the prevalence and analyze the associated factors of early skin-to-skin contact and breastfeeding in the first hour of life in during COVID-19.

METHOD

A cross-sectional, documentary and quantitative research, carried out in a municipal hospital located in the coastal lowlands of the state of Rio de Janeiro. The maternity ward of this hospital unit is a reference in the care of women in labor who live in the municipality and in surrounding cities, providing low- and medium-risk deliveries, currently performing COVID-19 testing in the pregnant women hospitalized before delivery.

The data came from the medical records of the puerperal women admitted to the aforementioned hospital between September 2020 and January 2021. Inclusion criteria: medical records of puerperal women who gave birth in the research setting, regardless of the type of delivery, who were 18 years of age or older, and who were admitted to the Rooming-In sector within the first hour after birth of their children. Exclusion criteria: medical records of HIV-seropositive puerperal women; medical records of puerperal women with altered level of consciousness in the postpartum period; and/or medical records of puerperal women whose newborns had any contraindication to breastfeeding.

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The sample used was representative of a population comprised by approximately 750 deliveries during the study period. Adopting a 95% confidence interval, 5% sampling error, 5% prevalence estimate, and 80% test power%, a minimum sample of 187 medical records was calculated, which were selected according to the eligibility criteria until the established sample was reached.

The data were collected by consulting the medical records using a structured form developed by the study team, including demographic variables related to pregnancy, delivery and the newborn. Collection was initiated in February 2021, with a pause in March, due to the increase in the number of COVID-19 cases in the region, resuming and completing it in June of the same year, in the face of the yellow flag. The documents were consulted *in loco*, respecting the dynamics of the service, as well as the COVID-19's prevention protocols.

The variables researched were as follows: dependent variables (outcome): early skin-to-skin contact and breastfeeding in the first hour of life. The independent variables of the maternal sociodemographic characteristics and gestational conditions were as follows: age (≥ 18, < 19 years old or older or ≥ 19 years old); ethnicity (white or black/brown, as there were no puerperal women belonging to other ethnicities in the sample selected); marital status (lives without a partner or lives with a partner, considering the possibility of support or not from the partner regarding the practices analyzed); prenatal care (yes or no); number of consultations (< 6 or ≥ 6 consultations); parity (primiparous or multiparous); number of previous children (one/two children or three/more children); miscarriages (yes or no); type of delivery (vaginal or C-section); and COVID-19 diagnosis (positive or negative). The neonatal independent variables were the following: gender (female or male); resuscitation maneuvers (yes or no); gestational weight/age; small for gestational age (SGA); adequate for gestational age (AGA); or large for gestational age (LGA); low birth weight (yes or no); Apgar 1st minute (< 7 or ≥ 7); prematurity (yes or no); and postpartum referral (Rooming-In or intermediate unit). It is noted that the maximum limit of 20% of *missing* data for each variable was respected, as it is difficult to find fully completed medical records in the research setting.

Initially, the data were entered into a Microsoft Office Excel® worksheet, by double entry; therefore all the information was entered twice, by two different researchers. In cases of disagreement, one of the researchers in charge of typing the data would correct the spreadsheet following the respective filled-out form as basis.

Descriptive statistics were used with absolute and relative frequency measurements for all the categorical variables, in addition to central tendency (mean, median) and dispersion (standard deviation) measures for the continuous variables. The Chi-Square test was adopted to analyze the association between the variables. Associations with $p<0.20$ were submitted to logistic regression in order to estimate the relationships to skin-to-skin contact in the delivery room and to breastfeeding in the first hour of life, by calculating the Odds Ratios (ORs) and their respective 95% confidence intervals. The significance level was set at 5%. The data were analyzed in the IBM® SPSS software, version 21.0.

The project was approved by the institution's Research Ethics Committee and all the ethical aspects were contemplated in accordance with Resolution 466/12 of the National Health Council. Use of the data from the medical records occurred after the responsible researcher signed a Term of Commitment for the Use of Data (TCUD).

RESULTS

A total of 187 (100 0%) medical records were analyzed. The prevalence rates of early skin-to-skin contact and breastfeeding in the first hour of life in during COVID-19 were 36.7% (n=62) and 63.2% (n=103), respectively.

Regarding the maternal sociodemographic characteristics, the mean age was 26.3 years old (SD=6.0), varying from 18 to 44, with predominance of mothers aged 19 years old or older (n=175; 93.6%). The highest percentage corresponded to black- or browned-skinned mothers (n=106; 65.8%) living without a partner (n=120; 69.8%).

Regarding the gestational conditions, 177 (97.3%) women attended prenatal consultations, most of them with at least six appointments (n=128; 69.9%). In relation to parity, 143 (76.5%) had one or two children, with 111 (59.7%) multiparous women; in addition, 23 (12.4%) had some type of miscarriage in previous pregnancies. Cesarean delivery was prevalent (n=109; 58.3%). Regarding the SARS-CoV-2 infection, 16 (8.8%) tested positive.

In relation to the neonatal characteristics, most of the infants were male (n=94; 50.3%) and a minority (n=10; 5.7%) was subjected to some type of resuscitation maneuver. Newborns with adequate birth weight for their gestational age predominated (n=145; 77.5%), with a mean birth weight of 3,330.7 g (SD=544.2), varying from 1,270 g to 5,200 g, with only 13 (7.0%) being underweight (<2,500 g).

The mean gestational age at birth was 39.1 (SD=1.3) weeks, with a minimum of 31 and a maximum of 42). Thus, 178 (95.7%) were full term newborns. Most of them presented good adaptation to extrauterine life, with 172 (93.0%) infants presenting Apgar scores equal to or above seven at the first minute. Regarding referral after delivery, 182 (98.9%) were immediately transferred to Rooming-In (Table 1).

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TABLE 1: Characterization of the mothers and infants according to sociodemographic variables, gestational conditions and neonatal conditions (n=187). Rio das Ostras, RJ, Brazil, 2021.

Variables	n (%)
Maternal age	
Less than 19 years old	12 (6.4%)
More than or equal to 19 years old	175 (93.6%)
Ethnicity*	
White	55 (34.2%)
Black or brown	106 (65.8%)
Marital status*	
Lives without a partner	120 (69.8%)
Lives with a partner	52 (30.2%)
Prenatal care*	
Yes	177 (97.3%)
No	5 (2.7%)
Number of consultations*	
Less than six	55 (30.1%)
More than or equal to six	128 (69.9%)
Parity*	
Primiparous	75 (40.3%)
Multiparous	111 (59.7%)
Number of children from previous pregnancies	
One or two	143 (76.5%)
Three or more	44 (23.5%)
Miscarriages	
Yes	23 (12.4%)
No	162 (87.1%)
Type of delivery	
Vaginal	78 (41.7%)
C-section	109 (58.3%)
COVID-19 diagnosis*	
Positive	16 (8.8%)
Negative	165 (91.2%)
Resuscitation maneuver*	
Yes	10 (5.7%)
No	164 (94.3%)
Infant's gender	
Male	94 (50.3%)
Female	93 (49.7%)
Weight/GA	
SGA	9 (4.8%)
AGA	145 (77.5%)
LGA	33 (17.6%)
Low weight	
Yes	13 (7.0%)
No	174 (93.0%)
Apgar 1st minute*	
< 7	13 (7.0%)
≥ 7	172 (93.0%)
Prematurity*	
Yes	8 (4.3%)
No	178 (95.7%)
Postpartum referral*	
Rooming-In	182 (98.9%)
Intermediate unit	2 (1.1%)

* The variable presented *missings*.
Source: Prepared by the authors

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In the association between the outcome variables and the sociodemographic characteristics and gestational conditions, "number of previous children" was the variable that presented statistical significance (p=0.046) with "early skin-to-skin contact" in the delivery room. There were no statistically significant associations (p<0.05) for the "breastfeeding in the first hour of life" outcome variable (Table 2).

TABLE 2: Association of early skin-to-skin contact and breastfeeding in the first hour of life with sociodemographic characteristics and gestational conditions (n=187). Rio das Ostras, RJ, Brazil, 2021.

Variables	Skin-to-skin contact			Breastfeeding in the first hour of life		
	Yes n (%)	No n (%)	*p***	Yes n (%)	No n (%)	*p***
Maternal age			0.982			0.824
Less than 19 years old	4 (6.5)	7 (6.5)		6 (5.8)	3 (5.0)	
More than or equal to 19 years old	58 (93.5)	100 (93.5)		97 (94.2)	57 (95.0)	
Ethnicity*			0.189			0.772
White	14 (28.0)	37 (38.9)		30 (35.3)	20 (37.7)	
Black or brown	36 (72.0)	58 (61.1)		55 (64.7)	33 (62.3)	
Marital status*			0.665			0.310
Lives without a partner	38 (71.7)	69 (68.3)		66 (73.3)	38 (65.5)	
Lives with a partner	15 (28.3)	32 (31.7)		24 (26.7)	20 (34.5)	
Prenatal care*			0.455			0.431
Yes	58 (98.3)	102 (96.2)		96 (96.0)	57 (98.3)	
No	1 (1.7)	4 (3.8)		4 (4.0)	1 (1.7)	
Number of consultations*			0.206			0.853
Less than six	21 (35.0)	27 (25.7)		29 (28.4)	17 (29.8)	
More than or equal to six	39 (65.0)	78 (74.3)		73 (71.6)	40 (70.2)	
Parity*			0.392			0.606
Primiparous	21 (34.4)	44 (41.1)		40 (39.2)	26 (43.3)	
Multiparous	40 (65.6)	63 (58.9)		62 (60.8)	34 (56.7)	
Number of children from previous pregnancies			**0.046**			0.440
One or two	42 (67.7)	87 (81.3)		81 (78.6)	44 (73.3)	
Three or more	20 (32.3)	20 (18.7)		22 (21.4)	16 (26.7)	
Miscarriages			0.351			0.307
Yes	10 (16.4)	12 (11.3)		12 (11.8)	7 (11.9)	
No	51 (83.6)	94 (88.7)		90 (88.2)	52 (88.1)	
Type of delivery			0.824			0.922
Vaginal	26 (41.9)	43 (40.2)		42 (40.8)	24 (40.0)	
C-section	36 (58.1)	64 (59.8)		61 (59.2)	36 (60.0)	
COVID-19 diagnosis*			0.627			0.581
Positive	5 (8.3)	11 (10.7)		11 (11.2)	5 (8.5)	
Negative	55 (91.7)	92 (89.3)		87 (88.8)	54 (91.5)	

* The variable presented *missings*.
** Chi-Square statistical test.
Source: Prepared by the authors

In the association between the dependent variables and the neonatal characteristics, "weight/gestational age" was the statistically significant variable (p=0.044) with "breastfeeding in the first hour of life". There was no statistical significance for the "early skin-to-skin contact" variable (p<0.05) (Table 3). Skin-to-skin contact and breastfeeding in the first hour of life were associated with each other (p=0.000).

After the binary logistic regression, "number of children from previous pregnancies" (OR=3.03; 95% CI: 1.08-8.48; p=0.035) remained a factor associated with "early skin-to-skin contact"; thus, having one or two children increases approximately three times the chances of the infant not being placed in this position; the newborn being female (OR=2.69; 95% CI: 1.15-6.29; p=0.022) also remained as an associated factor, increasing the chances (by nearly three times) for non-occurrence of this practice. However, the chance of being breastfeed in the first hour of life was approximately 4.5 times higher among newborns put to skin-to-skin contact (OR=4.44; 95% CI: 1.93-10.19; p=0.000).

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TABLE 3: Association of early skin-to-skin contact and breastfeeding in the first hour of life with neonatal characteristics (n=187). Rio das Ostras, RJ, Brazil, 2021.

Variables	Skin-to-skin contact			Breastfeeding in the first hour of life		
	Yes n (%)	No n (%)	*p***	Yes n (%)	No n (%)	*p***
Resuscitation maneuver*			0.768			0.330
Yes	3 (5.0)	6 (6.1)		5 (5.1)	5 (9.1)	
No	57 (95.0)	92 (93.9)		94 (94.9)	50 (90.9)	
Infant's gender			0.063			0.858
Male	37 (59.7)	48 (44.9)		50 (48.5)	30 (50.0)	
Female	25 (40.3)	59 (55.1)		53 (51.5)	30 (50.0)	
Weight/GA			0.170			**0.044**
SGA	2 (3.2)	7 (6.5)		6 (5.8)	3 (5.0)	
AGA	52 (83.9)	76 (71.0)		84 (81.6)	40 (66.7)	
LGA	8 (12.9)	24 (22.4)		13 (12.6)	17 (28.3)	
Low			0.135			0.466
Yes	2 (3.2)	10 (9.3)		7 (6.8)	6 (10.0)	
No	60 (96.8)	97 (90.7)		96 (93.2)	54 (90.0)	
Apgar 1st minute*			0.510			0.708
< 7	3 (4.9)	8 (7.5)		7 (6.9)	5 (8.5)	
≥ 7	58 (95.1)	98 (92.5)		95 (93.1)	54 (91.5)	
Prematurity*			0.205			0.116
Yes	1 (1.6)	6 (5.7)		3 (2.9)	5 (8.5)	
No	61 (98.4)	100 (94.3)		100 (97.1)	54 (91.5)	
Postpartum referral*			0.280			0.693
Rooming-In	61 (100.0)	104 (98.1)		101 (99.0)	58 (98.3)	
Intermediate unit	0 (0.0)	2 (1.9)		1 (1.0)	1 (1.7)	

* The variable presented *missings*.
** Chi-Square statistical test.
Source: Prepared by the authors

DISCUSSION

It was identified that the prevalence values of the practices researched in during COVID-19 did not attain optimum levels. Breastfeeding in the first hour of life was higher among newborns put to skin-to-skin contact. On the other hand, puerperal women with one or two children and female newborns presented more chances of the infant not be put to breastfeed. It was also found that, in general, the pregnancies were low risk, the infants were born with good vitality and good adaptation to extra-uterine life, and the vast majority of the mothers had neither suspected nor confirmed SARS-CoV-2 infection, which should have favored skin-to-skin contact and breastfeeding in the first hour of life even during the pandemic.

The prevalence rates of skin-to-skin contact in the delivery room and breastfeeding in the first hour of life found were 36.7% and 63.2%, respectively, converging with findings from other national studies in which immediate skin-to-skin contact was 30% in a maternity hospital in Minas Gerais[15] and 37.2% for skin-to-skin contact with breastfeeding in the first hour in an outpatient clinic in São Paulo[20]. However, the rate of breastfeeding in the first hour of life was 43.9% in a high-risk maternity hospital in Rio de Janeiro[21] and 28.7% in the Obstetric Center and Rooming-In sector of the Clinical Hospital in Recife/PE[3], this result distancing from the current research and corroborating with the diverse evidence that the prevalence of practices in the Brazilian Northeast region is lower when compared to other regions of the country[7], such as the Southeast.

In international research studies, such as one conducted in Italy, early skin-to-skin contact was found in 100.0% of the wards analyzed[22], diverging from the current findings. Breastfeeding during the first hour of life was present in 64% of the health units studied in Bangladesh[23], a similar value to the index found. Thus, it is noticed that, internationally, among the studies observed, the rates corresponding to such practices are at desirable levels. However, they need to be more encouraged and guided in Brazil, as they are still below the recommended values, even in the current study.

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It is recommended that all low-risk and reactive newborns be placed in skin-to-skin contact with their mothers immediately after birth, remaining there for the first hour of life, and that routine procedures and exams only be performed after this contact has been established, except in the case of medical indication[9,12,24]. In this study, this practice did not occur significantly; however, these children could be placed in skin-to-skin contact in the delivery room and breastfed in the first hour of life, corroborating another survey conducted with primiparous women in a maternity hospital from *Zona da Mata Mineira*[15].

Some children of mothers with positive COVID-19 diagnoses were placed in skin-to-skin contact with their mothers even though it was not recommended[9,12], at the time of data collection. However, it has now been shown that this practice generates multiple beneficial effects on the newborns[25,26], so that most of the international guidelines recommend that skin-to-skin contact occurs, disregarding maternal infection by SARS-CoV-2, if the appropriate PPE (surgical mask) is used and hand hygiene is performed[26-28]. However, until the present day, this course of action continues to diverge from the national guidelines that recommend postponing skin-to-skin contact until preventive measures are taken[29], showing that uncertainties and divergences related to COVID-19 directly affect this practice in different contexts.

Regarding breastfeeding in the first hour of life, due to knowledge of its qualities, it is also recommended, both internationally and nationally, in cases of puerperal women with positive results for COVID-19, provided that proper breast and hand hygiene is performed, that the mother has this desire and that she is in good clinical condition[11-13,26]. Although some studies have reported presence of the virus in breast milk[26,30], no infectivity has been identified after detection of viral RNA by Reverse Transcriptase followed by Polymerase Chain Reaction (RT-PCR)[26]. However, despite the recommendation for breastfeeding in the first hour being upheld in pandemic times, for example, on arrival at the Rooming-In sector, the rate of this practice was not high.

The women who had three or more children from previous pregnancies presented higher rates of early skin-to-skin contact with the infants. This result partially converges with other studies previously conducted, where multiparity proved to be a protective factor for breastfeeding in the first hour of life, due to the fact that these women already had a previous experience and, consequently, presented fewer questions and insecurities about this practice[21,31].

Similarly, when adequate, the infants' weight by gestational age was associated with breastfeeding in the first hour of life, agreeing with studies conducted in Rio de Janeiro/RJ[21], Recife/PE[3], Nepal[32], Nigeria[33] and São Paulo/SP[20], where it was evidenced that birth weight above 2,500 g proved to be a protective factor for this practice.

Breastfeeding was higher in the newborns subjected to early skin-to-skin contact in the delivery room, when compared to those who did not undergo this practice. These data corroborate international and national studies, which detected that contact with the mother's skin and breastfeeding in the first hour of life were positively associated with success of the first feed. In addition, early skin-to-skin contact resulted in less time for breastfeeding to effectively take place in the first hour of life[20,23,34].

Skin-to-skin contact is recommended worldwide as a predictor for breastfeeding in the first hour of life, as the newborn is in an alert state and, consequently, can suck more effectively. Thus, this practice becomes the guiding principle for breastfeeding in the first hour of life[3,35], as was evidenced in this study, since the chance of being breastfed in the first hour of life was greater among newborns placed in skin-to-skin contact.

Based on the findings, it is noted that it is of utmost importance that measures be adopted that prioritize skin-to-skin contact in the delivery room and breastfeeding in the first hour of life, excluding or postponing unnecessary interventions at birth, as recommended by the literature, which also points out limitations in the occurrence of these practices[36,37]. Thus, the current results reinforce the urgency of guidelines on these practices with scientifically proven benefits in prenatal care, in order to contribute to better expectations and decision-making by the pregnant women and their family members, thus ensuring better delivery and birth assistance[37,38].

The results of this study reinforce that, whether in a pandemic period or not, the guidelines for early skin-to-skin contact and breastfeeding have always been and will always be extremely important to not lose the advances made in recent years in the country and in the world, in order to achieve the desired levels of these practices and for children to develop healthy, reducing neonatal and infant morbidity and mortality.

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Study limitations

As collection was conducted in a single location, the information was limited to this geographical context. In addition, there was lack of information among the medical records analyzed, generating *missings* for some variables, which is also a study limitation.

CONCLUSION

The prevalence rates corresponding to early skin-to-skin contact and to breastfeeding in the first hour of life in during COVID-19 were not satisfactory. The number of previous children and the infant's gender were associated with skin-to-skin contact, as non-occurrence of this practice was approximately three times higher among puerperal women with one or two previous children and among female infants. In addition, the practices analyzed were associated with each other, as newborns that had skin-to-skin contact with their mothers in the delivery room were approximately 4.5 times more likely to be breastfed within the first hour of life.

Newborns with good vitality should be placed immediately on the mother's lap. Therefore, it is of great value that the nurse, as well as the health team involved with the binomial, be trained and able to make skin-to-skin contact happen immediately after birth, thus facilitating breastfeeding in the first hour of life and, consequently, increasing the adherence rates and breastfeeding continuity during and after the pandemic.

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