International Journal of Advanced Engineering Research and Science (IJAERS)
Peer-Reviewed Journal
ISSN: 2349-6495(P) | 2456-1908(O)
Vol-9, Issue-1; Jan, 2022
Journal Home Page Available: https://ijaers.com/
Article DOI: https://dx.doi.org/10.22161/ijaers.91.8

Factors related to the pandemic period and its possible influence on the exclusive breastfeeding phase in the cities of Belem and Ananindeua– PA/Brazil

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Received: 15 Nov 2021,

Received in revised form: 25 Dec 2021,

Accepted: 07 Jan 2022,

Available online: 17 Jan 2022

***Keywords*— Breastfeeding, Exclusive breastfeeding, Child; Pandemic.**

***Abstract*—** *The research aimed to understand the possible factors associated with the COVID-19 pandemic that may have impaired the period of exclusive breastfeeding. Cross-sectional and anonymous study with 62 mothers from the cities of Belem and Ananindeua – PA/Brazil, using an online form.As a result, predominantly: 1/3 had completed higher education, 25 and 49 years old, single, monthly income of 1 to 2 minimum wages, did not participate in government aid programs, cesarean delivery, prenatal care performed at SUS, were still breastfeeding, 45% had symptoms of anxiety, depression or compulsive disorder, 63% of children fell ill in the last 6 months. 24% of women felt insecurity or fear of breastfeeding because of media news.The presence of professional prenatal guidance on pregnancy and COVID-19 was absent in more than 1/3 of the women, 37% did not receive professional guidance on breastfeeding during prenatal care, and 81% did not receive guidance on breastfeeding with suspicion or diagnosis of COVID-19. Of the statements heard by a family member or close person, the most frequent was: "You cannot do prenatal care or go to the hospital so as not to get COVID-19".The number of times the child became ill in the last 6 months and hospitalization of the child were correlated with the period of breastfeeding with $p<0.0001$ and $p=0.0455$, respectively. This study brings a new perspective to the findings involving maternal and child nutrition and the COVID-19 pandemic, and it is essential that more comprehensive policies are reformulated, for the training of health professionals in the context of coping with COVID-19 and for managing news available in the media.*

I. INTRODCTION

The first reports of COVID-19 infection occurred in China, more specifically in Wuhan, at the end of 2019. The virus that causes pneumonia is SARS-CoV-2, being an agent of high transmission and lethality, capable of altering the routine and way of life around the world[1].

With the emergence of this hitherto little-known global emergency, concerns related to certain groups became increasingly emerging. In this sense, the group of pregnant and lactating women stands out, in view of the concern about the potential for lethality in them during pregnancy and the possible transmission of the infection to the fetus

and newborn[2]. Few studies are described in the literature that can answer these questions, but, as far as is known, there is still no evidence of the existence of transmission of the SARS-CoV-2 virus through breastfeeding, at the time of delivery and not even in the intrauterine environment[3].

In the context of breastfeeding (BF), this perspective culminates in the concern for a possible increase in early weaning, given that the World Health Organization - WHO[4] dialogues with society about the importance of BF in the first hour of life, exclusive breastfeeding (AME) up to six months of age and complementary to introductory feeding up to two years of age. This relevance is due to the fact that breast milk can be considered the 'first vaccine' for children, protecting them from various problems during childhood and throughout life.

Furthermore, in the puerperium, BF is extremely important for the production of hormones that will help in various processes at this stage and also for the maintenance of the mother-infant binomial. In suspected or confirmed cases of COVID-19 in the mother, it is indicated that there is no direct contact between the mother and the child, in order to avoid contamination of the child through bodily fluids that have a potential risk of transmission. In negative cases, what remains is fear and maternal anguish, taking into account the seriousness of the period in which we live. In both situations, such processes can trigger negative consequences for the physiology of lactation, the health of mother and child, in addition to interfering with the mother-infant binomial[5].

As a result, this study sought to understand the influence of the pandemic in the period of EBF, answering questions and providing information to lay people and health professionals about it.

II. METHODOLOGY

This quantitative, descriptive and cross-sectional study included mothers who breastfed during the COVID-19 pandemic, reached via the Google Form, with approval by the Research Ethics Committee under opinion No. 4,888,790. It was carried out in the cities of Belem and Ananindeua - PA, through a Google Form shared online, between the period of August 16, 2021 and October 22, 2021. Data collection began after project appraisal and authorization from Research Ethics Committee of the Institute of Health Sciences-UFPA and all precepts were followed. All women who did not fit the methodological profile mentioned above or who incompletely filled out the form were excluded from this study.

Data collect

Data were collected through a questionnaire filled out anonymously. After the authorization section, the participants filled in questions about their sociodemographic and economic data, with questions about their level of education, age, marital status, city and neighborhood of residence, family participation in monthly income, monthly family income value and participation in government programs.

Section three of the form consisted of clinical complications such as the occurrence or not of anxiety, depression, compulsive disorder or chemical dependency (illicit drugs, cigarettes, alcohol) during the breastfeeding period, infection or not by COVID-19, or period of infection, the month in which the participant contracted COVID-19, involvement or not of any disease in the postpartum period, if so, which disease and whether or not there was hospitalization, the number of times the child was hospitalized in the last 6 and whether or not there was hospital admission.

Section four consisted of questions about prenatal care and childbirth, such as type of delivery, network of prenatal care, whether or not there was guidance on COVID-19 and pregnancy, breastfeeding and breastfeeding and with suspicion or diagnosis of COVID -19 by a professional in prenatal care.

Section five of the questionnaire dealt with the breastfeeding period, with questions about the exclusive breastfeeding period, whether or not there was the presence of fear or anxiety about breastfeeding due to COVID-19 and the reason for the fear or anxiety.

The sixth section of the form referred to possible influences on the exclusive breastfeeding phase. They were asked whether or not they believed that the COVID-19 pandemic influenced the period in which they breastfed and, if so, how, if anyone in the family tried to advise them not to breastfeed due to COVID-19 and if they received any type of information about pregnancy or breastfeeding in the media during the COVID-19 pandemic, if you received any media information not recommending exclusive breastfeeding due to COVID-19, if there was insecurity or fear of breastfeeding as a result of news in the media about COVID-19; which means you received the most information encouraging breastfeeding during the COVID-19 pandemic, which means you received the least information encouraging exclusive breastfeeding during the COVID-19 pandemic, if there was a statement from a family member or person very close, not recommending breastfeeding and for them to comment in a few words, how was the experience of breastfeeding during the pandemic period.

Statistical analysis

Descriptive data were presented as standard deviation, mean and p-value. G tests were performed to verify the existence of a statistical association between the variables "Period of exclusive breastfeeding X Number of times the child became ill in the last 6 months", "Period of exclusive breastfeeding X Child hospitalization", "Period of exclusive breastfeeding X Maternal hospitalization after clinical complications", "COVID-19 infection in the mother X Number of times the child became ill in the last 6 months", "Type of delivery X Number of times the child became ill in the last 6 months" , "School X Period of exclusive breastfeeding", "Age x Period of exclusive breastfeeding", "Monthly income X Period of exclusive breastfeeding" and "Problems during the breastfeeding period X Presence of influence of the COVID-19 pandemic in the breastfeeding period" using the BioEstat version 5.3 application and frequency distribution tables were used to determine the mean and standard deviation of the variables. Statistical significance was considered as $p < 0.05$.

III. RESULTS

Sociodemographic, economic, childbirth and breastfeeding data are shown in Table 1. Overall, 29% (n=18) of the participants had incomplete higher education, with 45% (n=28) between 18 and 24 years of age. age, 40% (n=25) declared themselves in a stable union and 53% (n=33) with a monthly income of 1 to 2 minimum wages, 81% (n=50) lived in the city of Belém/PA and the 19% (n=12) remaining in Ananindeua/PA, where 76% (n=47) reported not participating in any government program. Of the total number of volunteers, 62% (n=37) underwent cesarean delivery, 60% (n=37) obtained the Unified Health System (SUS) as a prenatal care network, 71% (n=44) of the mothers were still breastfeeding during the survey period, 55% (n=38) reported not having developed anxiety, depression or compulsive disorder, 69% (n=43) reported not having fear or anxiety about breastfeeding due to COVID-19 and 74% (n=46) reported that the COVID-19 pandemic did not influence the breastfeeding period.

Table 1 Survey of sociodemographic, economic, childbirth and breastfeeding data

(Tobecontinued)

Sociodemographic, economic, birth and breastfeeding data.	Sample of 62 participants (%)
Schooling	
Incomplete elementary school	1 (1%)
Complete primary education	1 (2%)
Incomplete high school	5 (8%)
Complete high school	15 (24%)
Incomplete higher education	18 (29%)
Complete higher education	6 (10%)
Postgraduate/Masters/Doctorate	16 (26%)
Age	
18 to 24 years old	28 (45%)
25 to 34 years old	25 (40%)
35 years old or more than	9 (15%)
Marital status	
Single	18 (29%)
Married	18 (29%)
Stable union	25 (40%)
Divorced	1 (2%)
City	
Belem	50 (81%)
Ananindeua	12 (19%)

Monthly income	
1 to 2 minimum wages	33 (53%)
3 to 5 minimum wages	20 (32%)
6 to 10 minimumwages	6 (10%)
More than 10 minimumwages	3 (5%)

Table 1 Survey of sociodemographic, economic, childbirth and breastfeeding data

(Conclusion)

Sociodemographic, economic, birth and breastfeeding data.	Sample of 62 participants (%)
Participation in Government Programs	
Yes	15 (24%)
No	47 (76%)
Type of childbirth	
Normal	23 (38%)
Cesarean	37 (62%)
Prenatal health service	
Gratuity service (SUS)	37 (60%)
Private service	25 (40%)
Exclusive breastfeeding period	
Were still breastfeeding	44 (71%)
Less than 6 months	4 (6%)
More than 6 months	14 (23%)
Problems during the breastfeeding period	
Did not show any of the symptoms	38 (55%)
Anxiety	24 (35%)
Depression	5 (7%)
Compulsive disorder	2 (3%)
Fear or anxiety about breastfeeding due to COVID-19	
Yes	19 (31%)
No	43 (69%)
Presence of influence of the COVID-19 pandemic in the breastfeeding period	
Yes, there was influence	16 (26%)
No, there was no influence	46 (74%)

Data on clinical complications in the mother and child during the breastfeeding period are shown in Table 2. Among the interviewees, 53% (n=33) said they did not contract COVID-19 infection, 21% (n=13) of those who did. Reported having been infected during pregnancy. 89% (n=55) had no clinical complications after delivery, among the 11% (n=7) who had complications; there was no need for hospitalization in 57% (n=4). In relation to the child, 53% (n=33) of the mothers informed that the child became ill once or twice in the last 6 months before filling out the

questionnaire, and among the total number of children who became ill during this period, 79% (n=31) did not require hospitalization.

Table 2 Characterization of clinical complications in the mother and child during the breastfeeding period

Clinical complications of mother and child during the breastfeeding period	Sample of 62 participants (%)
COVID-19 infection	
Yes	29 (47%)
No	33 (53%)
Period of infection by COVID-19	
Before pregnancy	9 (15%)
During the pregnancy	13 (21%)
Between delivery and up to 6 months later	7 (11%)
Didnotcontract	33 (53%)
Clinicalcomplicationsafterchildbirth	
Yes	7 (11%)
No	55 (89%)
Presence of hospitalization	
Yes	3 (43%)
No	4 (57%)
Number of times the child became ill in the last 6 months	
None	23 (37%)
One or two	33 (53%)
Three or more than	6 (10%)
Hospitalization	
Yes	8 (21%)
No	31 (79%)

In the figures below, data on the influence of the media, the health professional and the family on breastfeeding during the pandemic period are presented.

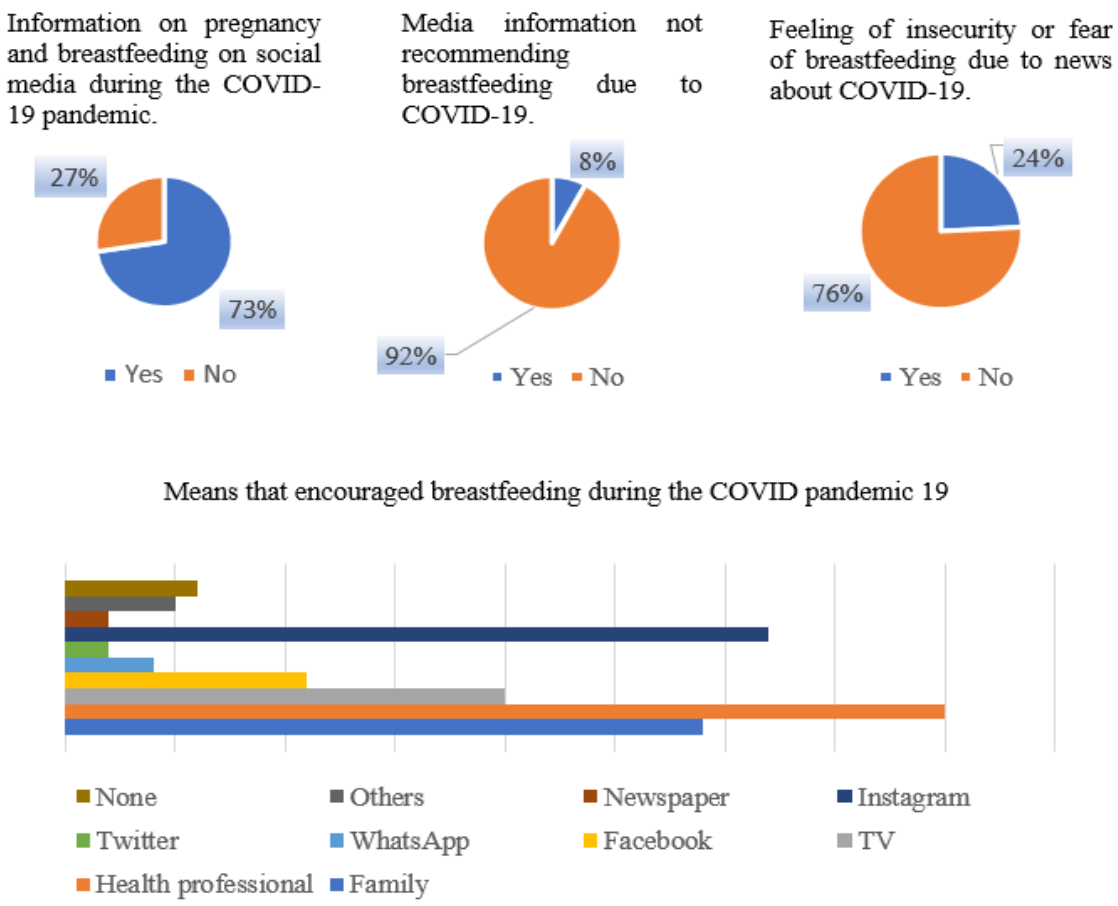

Fig.1 Media influence data

Source: prepared by the author of the work.

Among the total number of participants, 73% (n=45) claimed to have been exposed to some type of information about pregnancy or breastfeeding in the media during the COVID-19 pandemic, where only 8% (n=5) received guidance not to recommend breastfeeding in these media information. Regarding fear or insecurity in breastfeeding, caused as a result of media news about COVID-19, 24% (n=15) of respondents said they had such feelings and the means where they most received information encouraging breastfeeding during the pandemic period were Professionals Health (n=40), Instagram (n=32) and Family (n=29).

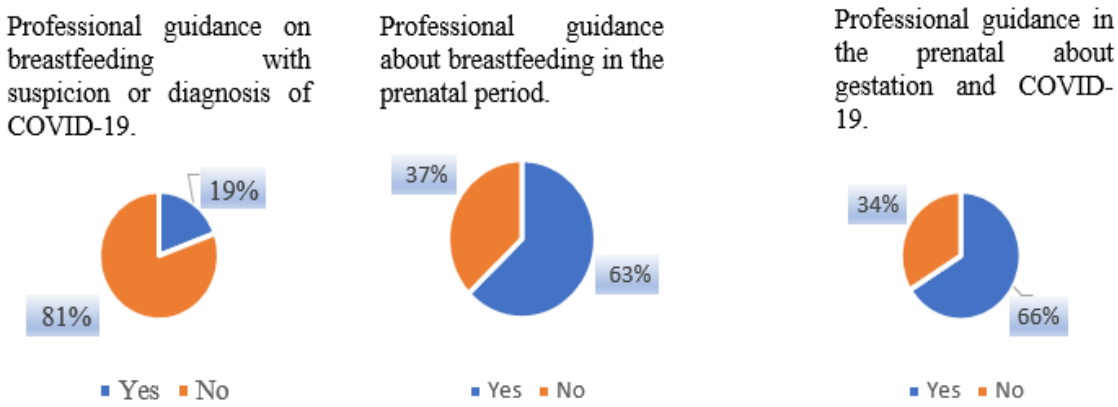

Fig.2: Data on the influence of the health professional

Source: prepared by the author of the work.

Among the participants, 81% (n=50) reported not having received professional guidance on breastfeeding with suspicion or diagnosis of COVID-19, while out of the total, 63% (n=39) received general professional guidance

on breastfeeding in the prenatal period and 34 % (n=21) did not receive information from health professionals, during prenatal care, about pregnancy and COVID-19.

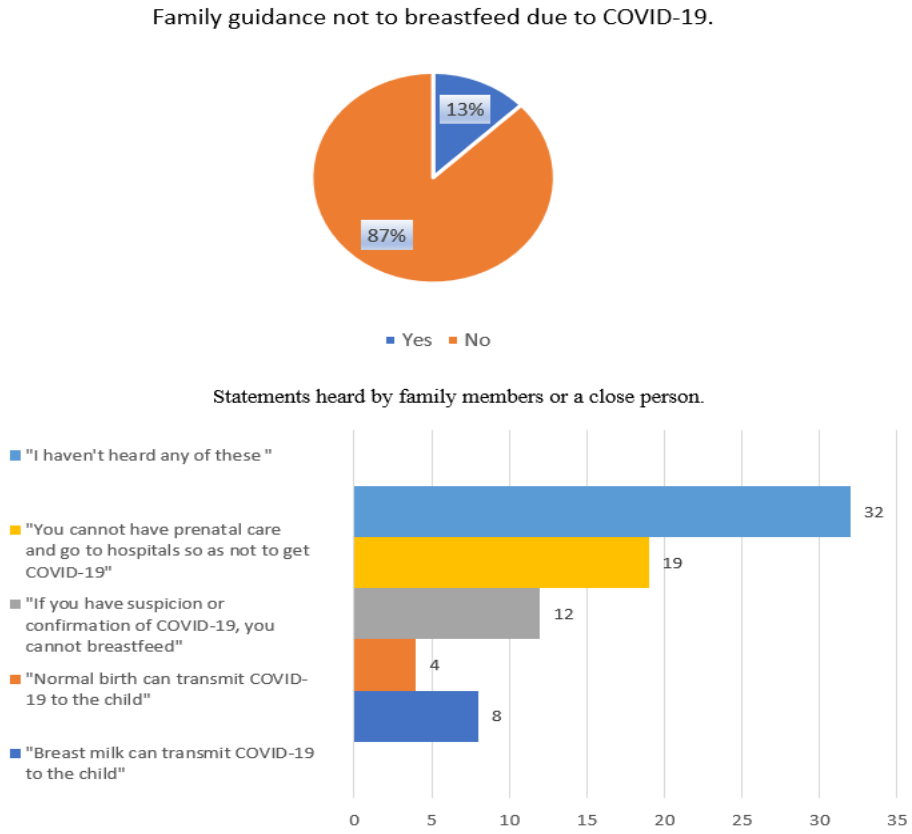

Fig.3 Family influence data

Source: prepared by the author of the work.

Among the 62 participants, 13% (n=8) received information from family members to avoid breastfeeding due to COVID-19 and from the allegations most heard by family members and/or close people on the subject, “You cannot do pre- birth or going to hospitals so as not to contract COVID-19” and “If you have suspicion or confirmation of COVID-19, you cannot breastfeed”.

Comparative analysis

Among the analyzed and correlated variables, only two correlations were statistically significant: "Breastfeeding period X Number of times the child became ill in the last 6 months" (Table 1) and "Breastfeeding period X Child hospitalization" (Table 2), with $p<0.0001$ and $p=0.0455$, respectively, while the other samples presented $p>0.05$. This fact may have occurred as a result of the sample size (n=62) so that there was a significant correlation between the samples. The variables that did not reach statistical significance were: in table 3, the comparative analysis between the period of exclusive breastfeeding and the occurrence of maternal hospitalization, which presented $p=0.2789$; in table 4, the comparative analysis between COVID-19 infection in the mother and the number of times the child became ill in the last 6 months, with $p=0.1950$; the statistical analysis performed in table 5, on the type of delivery and number of times the child became ill in the last 6 months ($p=0.9859$); the comparative analysis between maternal education and the period of exclusive breastfeeding, in table 6 ($p=0.9145$); in table 7, the comparative analysis between maternal age and the period of exclusive breastfeeding ($p=0.5450$); then, in table 8, the comparative analysis between monthly income and the period of exclusive breastfeeding was $p=0.1826$; and, finally, in table 9, the comparative analysis between problems during the breastfeeding period and the influence of the COVID-19 pandemic on the breastfeeding period ($p=0.3164$).

Chart1 Comparative analysis between the period of exclusive breastfeeding and the number of times the child became ill in the last 6 months.

Exclusive breastfeedingperiod	**Number of times the child became ill in the last 6 months**		p value
	Average	Standard deviation	
I'm still breastfeeding	14,67	9,24	
Lessthan 6 months	1,22	2,31	*p< 0.0001
6 monthsor more than	4,67	3,79	

* p value. G Test

Chart 2 Comparative analysis between the period of exclusive breastfeeding and the occurrence of hospitalization of the child.

Exclusive breastfeedinperiod	**Hospitalizationofthechild**		p value
	Avarage	Standard deviation	
I'm still breastfeeding	14,67	9,29	
Lessthan 6 months	1,33	1,53	*p=0.0455
6 monthsor more than	4,67	3,79	

* p value. G Test

Chart 3 Comparative analysis between the period of exclusive breastfeeding and the occurrence of maternal hospitalization after clinical complications.

Exclusive breastfeedingperiod	**Maternal hospitalization after clinical complications**		pvalue
	Avarage	Standard deviation	
I'm still breastfeeding	14,67	16,26	
Lessthan 6 months	1,33	1,53	*p=0.2789
6 monthsor more than	4,67	5,03	

* p value. G Test

Chart 4 Comparative analysis between COVID-19 infection in the mother and the number of times the child became ill in the last 6 months.

COVID-19 infection in the mother	**Number of times the child became ill in the last 6 months**		p value
	Avarage	Standard deviation	
Yes	10,00	7,94	*p=0.1950
No	10,67	6,03	

* p value. G Test

Chart 5 Comparative analysis between the type of delivery and the number of times the child became ill in the last 6 months.

Typeofchildbirth	**Number of times the child became ill in the last 6 months**		pvalue
	Avarage	Standard deviation	
Cesarean	13,33	8,62	*p=0.9859
Normal	7,33	5,03	

* p value. G Test

Chart 6 Comparative analysis between maternal education and the period of exclusive breastfeeding.

Schooling	**Exclusive breastfeedingperiod**		p value
	Avarage	Standard deviation	
Incompleteelementaryschool	0,33	0,58	
Complete primaryeducation	0,33	0,58	
Incomplete high school	2,00	2,65	
Complete high school	5,00	6,08	
Incompletehighereducation	6,33	6,11	*p=0.9145
Complete high school	2,00	2,00	
Postgraduate/Masters/Doctorate	4,67	3,06	

*p value. G Test

Chart 7 Comparative analysis between maternal age and the period of exclusive breastfeeding.

Age	**Exclusive breastperiod**		p value
	Avarage	Standard deviation	
18 to 24 yearsold	9,67	10,97	
25 to 34 yearsold	8,00	7,55	*p=0.5450
35 years old or more than	2,67	2,08	

* p value. G Test

Chart 8 Comparative analysis between monthly income and the period of exclusive breastfeeding.

Monthly income	**Exclusive breastfeedingperiod**		p value
	Avarage	Standard deviation	
1 to 2 minimumwages	11,33	14,57	
3 to 5 minimumwages	6,33	6,11	*p=0.1826
6 to 10 minimumwages	2,00	1,00	
More than 10 minimumwages	1,00	0,00	

* p value. G Test

Chart 9 Comparative analysis between problems during the breastfeeding period and the influence of the COVID-19 pandemic on the breastfeeding period.

Problems during the breastfeeding period	**Presence of influence of the COVID-19 pandemic in the breastfeeding period**		p value
	Avarage	Standard deviation	
Anxiety	9,50	6,36	
AnxietyandDepression	2,00	0,00	
Anxietyandcompulsivedisorder	0,50	0,71	
Anxiety, depression and compulsive disorder	0,50	0,71	*p=0.3164
None of the above problems	18,50	14,85	

* p value. G Test

IV. DISCUSSION

The breastfeeding process involves several factors that can interact in ways that promote or harm the practice. Thus, low maternal education (Table 1) can lead to early weaning, these chances were 110% in cases where the mother had eight years of schooling or less. This fact can be associated with little possibility of contact with reliable information about the importance of exclusive breastfeeding and its benefits for both the mother and the baby, and the breastfeeding woman's exposure to common sense information that does not always have a scientific basis[6]. As shown in table 6, there was no statistically significant representation (p=0.9145) in the correlation between education and the period of exclusive breastfeeding. However, this factor may have been due to the relatively small sample size to demonstrate significance, making it necessary to expand the study so that more data can be collected and correlated.

Another variable that should be considered as a risk factor is maternal age (Table 1). Studies show that aesthetic factors and the feeling of insecurity and inability to breastfeed are among the main reasons that lead younger mothers to abandon exclusive breastfeeding, while older mothers tend to maintain this practice[7]. However, the literature is still divergent on the topic, considering that mothers of intermediate age may have more chances of interrupting the practice due to the return to work[6]. In table 7, on the comparative analysis between maternal age and breastfeeding period, there was also no statistical significance (p=5450) between the associated variables. However, theliterature points totheneedtocarry out more studiesonthetopic, whichis still quite divergentamongresearchers.

Regarding the marital status (Table 1) of the lactating women, the absence of a partner or lack of encouragement on the part of the partner can be a predictor of early weaning, considering that in the first months of the child's life, the mother will need a strong support network, necessary to provide support in this new family arrangement[7]. We note thatthestudies point tothe negative aspects of the lack of support for the breast feeding mother, bringing a reflection on the need to implementactions to strengthen support for the mother-child binomial, aiming at improving the quality of life in the social sphere.

In the same study[7], it could be observed that families with lower purchasing power (Table 1) may be less likely to abandon exclusive breastfeeding, because such family arrangements have less purchasing power to obtain possible breastmilk substitutes, while families of higher socioeconomic status may be exposed to a greater risk of adhering to the practice of purchasing infant formula because they have more access to such means. Table 8 presents a non-significant statistical relationship (p=0.1826), which can be attributed to the sample size, which needs to be expanded to verify such relevance.

The mother's participation in government programs (Table 1) was suggested as a protective factor in the first year of life, as such benefits aim at transferring income to families in socioeconomic vulnerability, a factor that can provide better conditions for access to education and , consequently, information about the importance of exclusive breastfeeding for the first 6 months and complementary breastfeeding for up to two years of age[8].

As for the variable type of delivery (Table 1), it is noted that cesarean section can directly interfere with breastfeeding, taking into account that this practice is a barrier from breastfeeding in the first hour, due to anesthesia and the surgical procedure itself, also interfering in the establishment of the mother-infant bond[7]. This factor can be considered harmful to the health of the mother and child, making it necessary to encourage maternal autonomy when deciding on the type of delivery.

Another factor that can be seen as protective of breastfeeding is prenatal care (Table 1), as it is during this period that health professionals provide information that is essential for the health of the mother and child, one of which is about breastfeeding. The study[7] shows that the number of consultations carried out and humanized care provided by professionals can be directly associated with successful breastfeeding.

The breastfeeding period (Table 1) can impact not only the health of the mother and baby, but also the global economy. This practice leads to a reduction in morbidity and mortality in children from diarrhea and pneumonia, can reduce cases of childhood obesity and prevent the death of women from breast and ovarian cancer and type 2 diabetes, factors that could yield 1.1 billion dollars to the world economy annually[9]. In tables 1 and 2, it was noticed that there was statistical significance between the period of exclusive breastfeeding, the number of times the child became ill in the last 6 months and the presence of hospitalization of the child ($p<0.0001$ and $p=0.0455$, respectively). This relationship can be explained by the amount of nutrients and immunological agents that are made available to children through breast milk, protecting them against the main cause of neonatal death, which are infection. Because of this, actions to encourage breastfeeding are considered one of the most effective forms of protection and support, contributing to the reduction of infant mortality rates[10,9].

In a certain study[8], a prevalence of 35.8% for depressive symptoms in the studied mothers was verified. This can be explained by the fact that the child's first year of life is marked as a period of many changes within the family arrangement, changes that can become an overload factor for the mother and trigger emotional and psychological problems. Children of mothers with such perspectives may also be exposed to a greater chance of developing the same problems. Such impasses can also be considered a barrier to the bond between mother and child. In table 1, it is identified that 45% of the interviewed mothers suffered from anxiety, depression or compulsive disorder during the breastfeeding period, however, only 26% reported feeling that the COVID-19 pandemic had some influence on this phase. It can be deduced that, although almost half of the interviewees present such symptoms, they do not relate such feelings as a consequence of the pandemic period. In Table 9, the analysis between problems during the breastfeeding period and the influence of the COVID-19 pandemic on the breastfeeding period was not statistically significant (p=0.3164).

In an observational study[11], it was identified that most participants who were infected with COVID-19 during pregnancy had mild infection. However, in a given cohort study[12], infected pregnant women were at high risk for pre-eclampsia, premature birth and cesarean section. In line with these studies, a literature review[13] identified that such pregnant women do not present serious clinical manifestations and, as for the fetuses, there was identification of the possibility of fetal distress, respiratory difficulties and premature birth. Such data portray the need for further studies that will clarify these issues.

As shown in table 4, the comparative analysis between COVID-19 infection in the mother and the number of times the child became ill in the last 6 months, we can see that there was no statistical significance, with p=0.1950. These data corroborate research on most viral diseases, which reinforces the need for further studies to better understand the fact.

As for illness and maternal hospitalization (Table 2), a certain scope review[14] found a higher risk of hospitalization in the ICU in postpartum women, with obesity and diabetes as a risk factor. It was also pointed out that infection with COVID-19 during pregnancy can result in exacerbation of the state during the puerperium, due to several hormonal changes common to the period of pregnancy and puerperium, in addition to an increased risk of thromboembolism among puerperal women who had the infection by COVID-19. In table 3, the comparative analysis between the period of exclusive breastfeeding and maternal hospitalization after clinical complications did not find statistical relevance between the variables (p=0.2789).

A given cohort[15] identified maternal age over 35 years, less than four prenatal consultations and cesarean delivery as a risk factor for the hospitalization of newborns. Maternal age may be related to changes that are characteristic of the physiological process of aging, leading to early delivery. Prenatal care can act to minimize such risks, it is during consultations that possible problems are identified and treated in the safest way possible for mother and child. However, in line with the analysis obtained in table 5 on the type of delivery and the number of times the child became ill in the last 6 months, a cohort study[16] found that there was no correlation between the type of cesarean or vaginal delivery and respiratory infection and atopy until one year of life and overweight and obesity from 12 months of age. Thus, it is suggested that more detailed studies should be developed to clarify such variables.

Regarding the use of media by mothers (Figure 1), an integrative review[17] corroborated the findings of this research, pointing to the frequent use of apps, internet, websites and e-mail. This factor was associated as a point of protection and maintenance of breastfeeding, as the content most consumed by such mothers referred to the search for information and resolution of maternal problems during EBF, allowing these participants to have access to information that they could not traditionally seek and enabling the support they need. However, this variable could also be related to the overload of information made available in such media.

Support networks (Figures 1 and 2) play a fundamental role in this life cycle. There was a four-fold increase in the chances of maintaining EBF when the mother had the encouragement of the family and health professionals. This factor can be associated with the importance of support at a time of weakness for the mother, where all efforts are focused on child and the guardians often feel overwhelmed with all the necessary demands at this stage. The period back to work is also a time of great need for help from the support network, it is at this time that many mothers interrupt exclusive breastfeeding for not being able to reconcile such demands[18,19]. The studies reinforce the findings of this research, and it is worth warning of the need for an easily accessible information channel and safe content aimed at breastfeeding women, especially in emergency periods such as the current COVID-19 pandemic, where mothers do not have access to public services or secure information.

V. CONSIDERATION

Of the women surveyed, 1/3 had completed higher education, most were between 25 and 49 years old, single, with a monthly income of 1 to 2 minimum wages, did not participate in government aid programs, cesarean delivery, with prenatal care in the SUS, they were still breastfeeding and 45% had symptoms of anxiety, depression or compulsive disorder.

About 1/3 of the women reported fear or anxiety when breastfeeding due to COVID-19, although most deny the negative influence of the COVID-19 pandemic on breastfeeding.

A worrying percentage (47%) had COVID-19 infection, especially during pregnancy. Most did not report clinical complications after childbirth and of these, most did not require hospitalization. Most children fell ill in the last 6 months, requiring hospitalization in 21% of cases.

The women had contact with some type of media information about pregnancy or breastfeeding during the COVID-19 pandemic, with a worrying percentage (8%) of advertisements not recommending breastfeeding, awakening in 24% of the women the presence of a feeling of insecurity or fear of breastfeed for this news. The means where they received the most information encouraging breastfeeding during the pandemic were health professionals, Instagram and family members.

The presence of professional guidance in prenatal care about pregnancy and COVID-19 was absent in more than 1/3 of the women surveyed. Regarding the information provided by health professionals, it was noticed that the number (37%) of mothers who did not receive professional guidance on breastfeeding in the prenatal period is alarming, and the number of mothers who did not receive guidance on breastfeeding with suspicion or diagnosis of COVID-19.

Of the statements heard by a family member or close person, the most frequent were: "You cannot do prenatal care or go to the hospital to avoid contracting COVID-19", "If you have suspicion or confirmation of COVID-19, you cannot breastfeed" and " Breast milk can transmit COVID-19 to the child".

The number of times the child became ill in the last 6 months and hospitalization of the child were correlated with the period of breastfeeding with $p<0.0001$ and $p=0.0455$, respectively.

It is worth mentioning the insecurity and fragility perceived by women as a result of the lack of information made available through a reliable means, resulting in the public's misinformation, which must be considered a priority in the light of social problems. It is also inferred that, although we have found in the media a possible factor to protect and promote the practice of breastfeeding, more effective monitoring policies must be implemented so that a certain portion of lactating women will not suffer from false information, and health professionals must act as a means of propagating scientifically proven information, through their proper qualification, especially with regard to the pandemic period and the indiscriminate dissemination of information, which can generate even more fear and insecurity for those who are already in a moment of fragility.

It is noteworthy that the method of reaching the participants and the methodology used must be taken into account. This study corroborates with studies already carried out in the field of maternal and child nutrition and with evidence about the new coronavirus, in addition to pointing to the emerging need for more studies on the topic addressed.

VI. FINANCIAL SUPPORT AND CONFLICT OF INTEREST

The research was funded with resources from researchers, with no conflict of interest by funding agents.

VII. AUTHORSHIP

All authors were essential in designing the study. BML proved to be indispensable in the formulation of research questions, in the conception and elaboration of the study, in carrying out the statistical analysis of the data, in the interpretation of findings and in the conception of the article's writing. BMSS was of paramount importance in formulating the research questions, in carrying out the study, as well as in disseminating and collecting the data obtained. IECF proved to be relevant in the process of formulating the research questions, in the study design and in the online dissemination of the research, through social networks. MKSM was instrumental in the entire initial process of the article, such as formulating the research questions and designing the study, as well as during its dissemination through the media. LMCS was of fundamental importance in the entire process of carrying out the study, from the formulation of initial questions to the correction of the writing of the article.

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