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JCR Category	Category Rank	Category Quartile
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JCR YEAR

2022

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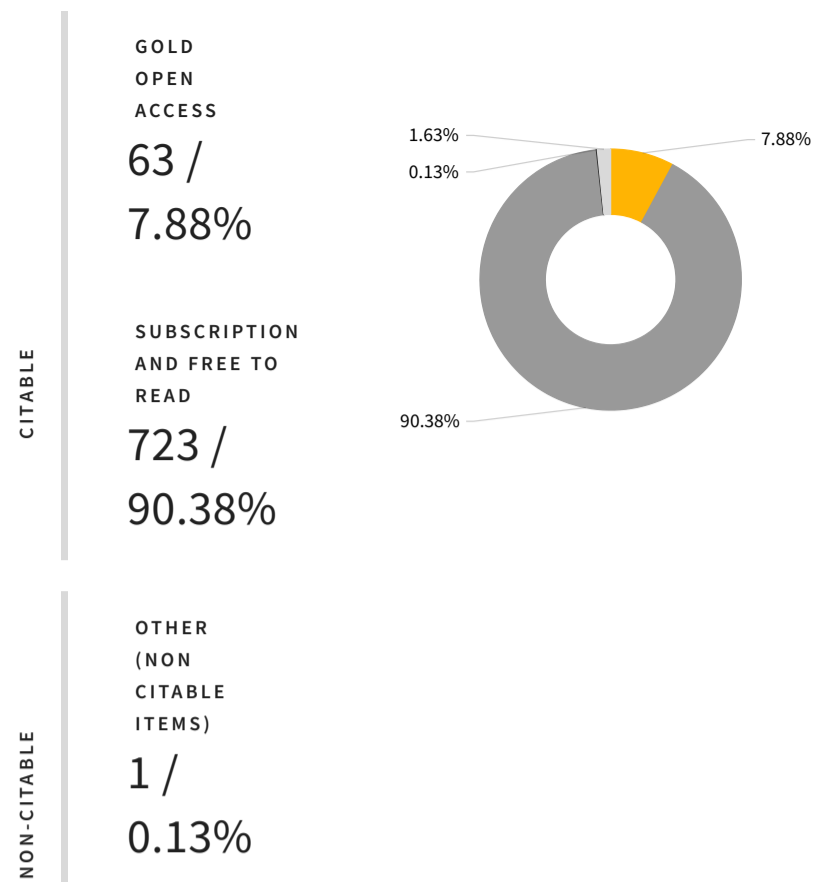
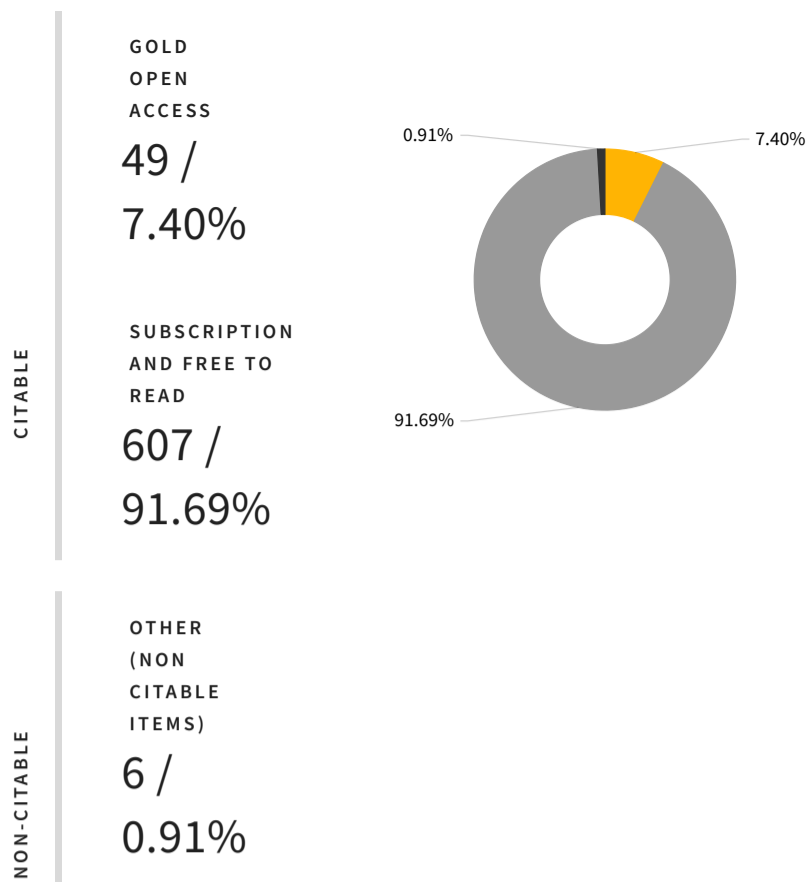
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EDITION
Social Sciences Citation Index (SSCI)

CATEGORY
EDUCATION & EDUCATIONAL RESEARCH
217/269

JCR YEAR	JIF RANK	JIF QUARTILE	JIF PERCENTILE
2022	217/269	Q4	19.5
2021	233/270	Q4	13.89
2020	212/265	Q4	20.19
2019	207/263	Q4	21.48
2018	207/243	Q4	15.02

EDITION
Social Sciences Citation Index (SSCI)

CATEGORY
PSYCHOLOGY, DEVELOPMENTAL
71/76

JCR YEAR	JIF RANK	JIF QUARTILE	JIF PERCENTILE
2022	71/76	Q4	7.2
2021	72/78	Q4	8.33
2020	67/77	Q4	13.64
2019	70/77	Q4	9.74
2018	71/76	Q4	7.24

Rank by Journal Citation Indicator (JCI)

The relationships between the COVID-19 fears of mothers and their mother-infant bonding and breastfeeding self-efficacy in the postpartum period

Merve Polat & İlknur Yildiz

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The relationships between the COVID-19 fears of mothers and their mother-infant bonding and breastfeeding self-efficacy in the postpartum period*

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ABSTRACT

Mothers who are in more sensitive and in a different state in the postpartum period may think that the COVID-19 pandemic will affect the health of their babies. This study was carried out to investigate the relationship between the COVID-19 fears of mothers in the postpartum period and their mother-infant bonding and breastfeeding self-efficacy levels. This descriptive study included 258 mothers who had given birth at a state hospital in Turkey. The data were collected an information form, the Fear of COVID-19 Scale, the Mother-to-Infant Bonding Scale, the Breastfeeding Self-Efficacy Scale and analyzed. It was found that the mothers had moderate COVID-19 fear levels, they did not experience mother-infant bonding problems, and their breastfeeding self-efficacy levels were high. There was a negative relationship between the COVID-19 fear scores and breastfeeding self-efficacy scores. It may be recommended to provide education programs the relationships between breastfeeding, mother-infant bonding, and COVID-19 on mothers.

ARTICLE HISTORY

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KEYWORDS

COVID-19; mother-infant bonding; breastfeeding; postpartum period

Introduction

The SARS-CoV-2 virus that emerged in December 2019 in China took a hold of the entire world in a short time, and the disease caused by this virus, COVID-19, was declared a pandemic by the World Health Organization (WHO) on 11 March 2020 (World Health Organization, 2020). As in the rest of the world, the fear, worry, and panic caused by the rapidly spreading pandemic also pose a risk in terms of the psychological health of people and society in Turkey. Previous studies have revealed that during the COVID-19 pandemic period, individuals experience high rates of mental health issues, women are affected more by the pandemic compared to men, and the anxiety levels of women are higher than those of men (Ekiz, İlman, & Dönmez, 2020; Gao et al., 2020; Liu et al., 2020).

Considering that women in the postpartum period are more susceptible to mental health issues in comparison to other women due to their transition to motherhood and taking into account the combination of the defenselessness of mothers in this period with the effects of the COVID-19 pandemic, it has been argued that women in the postpartum period are influenced more severely by psychosocial consequences (Barba-Müller, Craddock, Carmona, & Hoekzema, 2019; Matvienko-Sikar, Meedy, & Raval, 2020). It has been concluded that the thoughts and feelings of mothers who have just given birth are negatively influenced, their depressive symptoms are worsened,

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*This study was produced from the master's thesis of the first author.

and their capacity to realize their plans of breastfeeding and motherhood decreases as a consequence of the combination of their concerns about exposure to COVID-19 with physical distancing and restriction measures (Zanardo et al., 2020; Zanardo et al., 2021). It is stated that various precautions taken due to the COVID-19 pandemic lead to difficulties in secure maternal bonding and breastfeeding, especially for newborns and their mothers (Altay & Arıkan, 2021).

Bonding is a strong connection between a mother and her infant that is influential on the development of the emotion of trust in the infant and their relationships with other people later in life. It is very important to initiate the mother-infant bonding process in the early period after birth. However, problems of the mother or the infant may affect the bonding process negatively (Altay & Arıkan, 2021; Demir Acar, Günay, & Çevik Güner, 2018). Factors that affect the bonding process negatively include difficult pregnancy and childbirth, giving birth to an infant with illness or anomalies, the mother and the infant not sharing the same room, and separation of the infant from their mother (Demir Acar et al., 2018; Köse, Çınar, & Altınkaynak, 2013). In the COVID-19 pandemic period, the mother-infant bonding process may be influenced negatively by the concerns of the mother about her health and that of her infant, as well as cases where mothers infected with COVID-19 and their infants not being allowed to share the same room. In a study comparing the mental health screening results of mothers who gave birth during the COVID-19 pandemic and those who gave birth in the same period of the previous year, it was determined that the mother-infant bonding levels of the mothers who gave birth during the COVID-19 pandemic had poorer mother-infant bonding one month after childbirth (Fernandes, Canavarro, & Moreira, 2021; Suzuki, 2020).

Breastfeeding is one of the most important factors that affect mother-infant bonding. It has been reported that the presence of the mother and the infant in the same room and their skin-on-skin contact increase maternal bonding and breastfeeding frequency (Çınar, Sözeri, Dede, & Cevahir, 2010; Karimi, Tara, Khadivzadeh, & Aghamohammadian Sharbaf, 2013; Köse et al., 2013). However, it has also been shown that the COVID-19 pandemic affects breastfeeding, which is closely associated with mother-infant bonding, negatively. Popofsky et al. (2020) demonstrated that breastfeeding was affected negatively both at home and at the hospital in infants who were separated from their mothers during the hospitalization of their mothers due to COVID-19 infection. Latorre et al. (2021) observed that curfews implemented during the COVID-19 pandemic affected breastfeeding negatively. Another study emphasized that the stress, isolation, and lack of support experienced by mothers during the COVID-19 pandemic period affected breastfeeding adversely (Fry et al., 2021).

In light of this information, it is seen that the COVID-19 pandemic influences mother-infant bonding and breastfeeding negatively. Therefore, this study was carried out to investigate the relationships between the COVID-19 fears of mothers who gave birth during the COVID-19 pandemic and their mother-infant bonding and breastfeeding self-efficacy levels.

Materials and methods

Design

This is a descriptive and cross-sectional study.

Population and sample

The population of the study consisted of mothers who gave birth at the Maternity Unit of the Sivas Numune Hospital, while the sample included those who gave birth between 1 December 2020 and 31 May 2021. The sample size necessary for the study was calculated with the formula below based on an unknown population size. Based on similar previous studies, when the standard deviation was accepted as 4.1, the error margin was 0.05, and the significance level was 0.05, with a testing power

of 94%, the sample size was calculated as at least:

$$n = \frac{\sigma^2 \cdot Z_{\alpha/2}^2}{d^2} = \frac{(4, 1)^2 \cdot (1, 96)^2}{(0, 05)^2} \cong 258$$

Inclusion criteria:

- not having any health problems,
- not having a history of psychiatric disease,
- not using psychiatric medication,
- having had a healthy pregnancy,
- being with one's baby after delivery
- not having any congenital anomaly or disease in the baby
- being able to read and write in Turkish.

Exclusion criteria:

- having a baby hospitalized in the neonatal intensive care unit,
- having any chronic disease,
- being illiterate in Turkish.

Data collection instruments

The data were collected using a Mother-Infant Information Form, the Fear of COVID-19 Scale, the Taylor Mother-to-Infant Bonding Scale (MIBS), and the Breastfeeding Self-Efficacy Scale (Short Form) (BSES-SF).

Mother-infant information form

The form, which was created by the researchers in line with the relevant literature (Döndar, 2021; Satıcı, Gocet-Tekin, Deniz, & Satıcı, 2021; Turhal, 2019) included 21 questions on the sociodemographic characteristics of the mothers, their periconceptional, prenatal, and postpartum characteristics, and infant-related information.

Fear of COVID-19 scale

The scale was developed by Ahorsu et al. (2020) to determine the COVID-19 fear levels of individuals, and it was tested for validity and reliability in Turkish by Satıcı et al. (2021). The 5-point Likert-type scale consists of 7 items, and total scores vary between 7 and 35. Higher scale scores indicate higher levels of fear of COVID-19. The Cronbach's alpha coefficient of the scale was reported as 0.88, while it was found as 0.78 in this study.

Taylor Mother-to-Infant Bonding Scale (MIBS)

The scale, which aims to allow the mother to express what she feels for her baby starting on the first postpartum day, was developed by Taylor, Atkins, Kumar, Adams, and Glover (2005) and adapted to Turkish by Aydemir Karakulak Aydemir and Alparslan (2016). It is a 4-point Likert-type scale with 8 items. Each item is scored in the range of 0-3, and the minimum and maximum scores on the scale are 0 and 24. Five items consist of negative emotional statements (anger-resentment toward the baby, neutral or lack of any feeling, dislike, disappointment, irritable, aggressive), and they are inversely scored. Mothers who score 13 or higher on the scale are considered to have problematic

bonding, while those who score under 13 are considered to have non-problematic bonding. The Cronbach's alpha coefficient of the scale was reported as 0.66, while it was found as 0.72 in this study.

Breastfeeding Self-Efficacy Scale-Short Form (BSES-SF)

BSES, which was developed by Dennis and Faux (1999) and adapted to Turkish by Aluř-Tokat, Okumus, and Dennis (2010), measures the extent to which mothers find themselves adequate in terms of breastfeeding. It is a 5-point Likert-type scale consisting of 33 items. In the internal consistency study of the scale that was conducted in 2003 by Dennis, some items were removed from the scale as they were found unnecessary. Accordingly, the simplified BSES-SF, consisting of 14 items, was formed. Dennis (2003) stated that it is appropriate to apply this scale in the postnatal period. The minimum and maximum total scores on the scale are 14 and 70. Higher scores indicate higher levels of breastfeeding self-efficacy (Aluř-Tokat et al., 2010). The Cronbach's alpha coefficient of BSES-SF was reported as 0.86 in its Turkish validity and reliability study, while it was found as 0.85 in this study.

Data collection

Mothers who had given birth and were staying in the maternity units were met in compliance with mask and social distancing rules, and they were given explanations about the study. Mothers whose babies were at most 48 h old and were breastfeeding their babies were included. The data collection forms were administered after the mothers who agreed to participate in the study provided verbal and written consent.

Data analysis

The data that were collected in the study were analyzed using the SPSS 23.0 programme. Frequency, percentage, and mean values were used to analyze the data. The Kolmogorov–Smirnov (K-S) and Shapiro–Wilk tests were used to test the normality of the distributions of the data. To analyze the significance of the differences between independent groups for the normally distributed variables, independent-samples t-test was used to compare two groups, and analysis of variance (ANOVA) was used to compare three or more groups. When a significant difference was found in ANOVA, post hoc Tukey's test was conducted to identify the source of the difference. Pearson's correlation analysis was used to identify the relationships between variables that were normally distributed. Linear regression analysis was used to estimate the effect of COVID-19 fears of the participants in the postpartum period affected their breastfeeding self-efficacy levels. In the evaluations of the results of the analyses, the level of statistical significance was accepted as $p < 0.05$.

Ethical aspect of the study

Before starting the study, ethical approval was obtained from the Sivas Cumhuriyet University Non-invasive Clinical Studies Ethics Committee with the decision dated 18 November 2020 and numbered 2020-11/23, and permission was obtained from the Sivas Provincial Directorate of Health for conducting the study at the hospital. Before starting to collect data, permissions were received via e-mail from the authors who performed the Turkish validity and reliability studies of the scales to be used in the study. The mothers who were included in the study were informed about the study verbally and in writing, and their consent was received. They were informed about the purpose of the study and where the results would be used, that those who voluntarily agreed to participate would be included, and that the collected information would be kept confidential. The study was performed in line with the principles of the Declaration of Helsinki.

Results

It was found that 37.1% of the participants were 24–29 years old, 98.4% were married, and 68.3% had nuclear families. While 36.4% of the participants had middle school degrees, 89.1% were not working. It was determined that 12.8% of the participants had been diagnosed with COVID-19, and 57.6% of those who had been diagnosed with COVID-19 stated that they experienced fear of losing their babies. While 49.2% of the participants had 1–2 pregnancies, 36.8% had three or more children, 64.7% had planned their latest pregnancy, and 70.2% had breastfed their other children (Table 1).

While the babies of 91.1% of the participants were born in the 38th gestational week or later, the birth weight values of 97.3% of the babies were 2500 g or higher, and 50.4% of them were male. It was found that 65.5% of the participants breastfed their babies more than 10 times a day, and 57.4% fed their babies exclusively with breastmilk (Table 2).

The mean Fear of COVID-19 Scale score of the participants was 20.07 ± 3.76 , which showed moderate COVID-19 fear levels. The mean MIBS score of the participants was 1.28 ± 1.56 , and this indicated that they did not have mother-infant bonding problems. The mean BSES-SF score of the participants was 48.46 ± 8.11 , and accordingly, their breastfeeding self-efficacy levels were high (Table 3).

The mean total Fear of COVID-19 Scale scores of the participants differed significantly based on their frequency of breastfeeding their babies, their mean total MIBS scores differed significantly based on their education levels, working status, numbers of pregnancies, numbers of children, and status of planning their pregnancies, and their mean total BSES-SF scores differed significantly based on their numbers of pregnancies, numbers of children, and status of having breastfed their other children, on their frequency of breastfeeding their babies and fed with only breastmilk or breastmilk and formula ($p < 0.05$) (Table 4).

A negative significant relationship was found between the mean Fear of COVID-19 Scale score of the participants and their mean total BSES score ($r = -0.203$; $p = 0.006$). Accordingly, as the COVID-19 fear levels of the participants increased, their breastfeeding self-efficacy significantly decreased (Table 5).

A significant difference was found in the breastfeeding self-efficacy levels of the participants based on their COVID-19 fear levels ($R = 0.203$, $R^2 = 0.041$, $F(1,256) = 11.009$, $p < 0.001$). The COVID-19 levels of the participants explained 4.1% of the total variance in their breastfeeding self-efficacy levels, which indicated a significant effect ($p < 0.005$). A 1-unit increase in the COVID-19 fear levels of the participants corresponded to a significant decrease by 0.203 times in their breastfeeding self-efficacy ($p < 0.05$) (Table 6).

Discussion

During the COVID-19 pandemic, pregnant women and new mothers may feel fear and worry (Wilson et al., 2020). The anxiety symptoms and depressive symptoms of mothers and mothers-to-be, their fears about the virus directly being transmitted to their babies, and their lack of social support may alter their mental health (Jungari, 2020; Saccone et al., 2020). This situation may affect mother-infant bonding and breastfeeding negatively. This study investigated the relationships between fears of COVID-19 among new mothers and their mother-infant bonding and breastfeeding self-efficacy levels.

In this study, the COVID-19 fear levels of the participants (20.07 ± 3.76) were found moderate. Some other studies conducted in Turkey have also revealed moderate and close results regarding Fear of COVID-19 Scale scores (Aydın, 2021; Kanber, 2021; Sevimli, 2021). It is thought that these results can be explained by the fact that studies on this topic have been carried out within the same year and in samples living in Turkey.

Mother-infant bonding starts from the period in which a pregnancy is planned, as well as the pregnancy period. The attention of the mother turns toward her baby and the health of her baby.

Table 1. Descriptive characteristics of the mothers ($n = 258$).

Characteristics	Frequency (n)	Percentage (%)
Age [$X \pm SD$ (min-max)] = [28.21 \pm 5.6 (18-42) years]		
18–23 years	59	22.9
24–29 years	96	37.1
30–35 years	75	29.1
Older than 35 years	28	10.9
Marital status		
Married	254	98.4
Single	4	1.6
Family type		
Nuclear family	176	68.3
Extended family	78	29.8
Fragmented family	4	1.9
Education level		
Primary school	48	18.6
Middle school	94	36.4
High school	66	25.6
University	50	19.4
Working		
Yes	28	10.9
No	230	89.1
Has tested positive for COVID-19 during pregnancy		
Yes	33	12.8
No	225	87.2
Feeling experienced when diagnosed with COVID-19* ($n = 33$)		
Fearing/worrying about losing her baby	19	57.6
Fearing/worrying about losing her baby and her life	10	30.3
Feeling weak and tired	4	12.1
Feeling powerless and helpless	3	9.1
Feeling anxious and uneasy	3	9.1
No different feeling	5	15.2
Number of pregnancies		
1–2	127	49.2
3–4	101	39.2
5 or more	30	11.6
Number of children		
1	71	27.5
2	92	35.7
3 or more	95	36.8
Planned her pregnancy		
Yes	167	64.7
No	91	35.3
Breastfed her other children		
Yes	181	70.2
No	77	29.8

*Percentages were calculated among only those who had been diagnosed with COVID-19, and multiple choices were allowed.

In this study, it was determined that the participants did not experience a problem in terms of mother-infant bonding. However, it was found that some sociodemographic factors influenced mother-infant bonding. As the education levels of the participants increased, their mother-infant bonding levels also increased. Some previous studies have found similar results (Cuijilts et al., 2019; Turhal, 2019). Moreover, the participants who were working had higher levels of mother-infant bonding in comparison to those who were not working. In one study conducted in Turkey, it was reported that working mothers had higher mother-infant bonding levels compared to non-working mothers (Keskin & Yağmur, 2020). Most working mothers who participated in our study were university graduates. It was also found that the mother-infant bonding levels of the participants increased along with increasing education levels. Thus, it would be expected that the mother-infant bonding levels of the working participants were higher due to the higher education levels of most of them.

Table 2. Descriptive characteristics of the babies ($n = 258$).

Characteristics	Frequency (n)	Percentage (%)
Gestational week at birth		
37 weeks or sooner	23	8.9
38 weeks or later	235	91.1
Birth weight		
2500 g or lower	7	2.7
2500 g or higher	251	97.3
Sex		
Female	128	49.6
Male	130	50.4
Breastfeeding frequency (per day)		
Less than 5 times	18	7.0
5–10 times	71	27.5
More than 10 times	169	65.5
Fed with		
Only breastmilk	148	57.4
Breastmilk and formula	110	42.6

Table 3. Mean fear of COVID-19 scale, MIBS, and BSES-SF scores of the mothers.

Scales	$X \pm SD$	Median	Min.-Max.
Fear of COVID-19 scale	20.07 \pm 3.76	20.0	11–35
MIBS	1.28 \pm 1.56	1.0	0–9
BSES-SF	48.46 \pm 8.11	50.0	17–70

Abbreviations: MIBS: Taylor Mother-to-Infant Bonding Scale **BSES-SF:** Breastfeeding Self-Efficacy Scale (Short Form).

In this study, as the number of pregnancies and children of the participants increased, their mother-infant bonding levels decreased. Engin (2021) reported that as the number of pregnancies and live births of mothers increased, their mother-infant bonding levels were negatively affected. This may be interpreted as that with an increase in the number of one's children, as a mother needs to spend time with her other children, she is unable to spend adequate time with her newborn baby. It is thought that planning one's pregnancy, preparing oneself for pregnancy, and embracing one's motherhood affect mother-infant bonding positively among mothers-to-be. In this study, it was also found that the status of planning one's pregnancy was one of the factors that affected mother-infant bonding, and the participants who had planned their pregnancies had higher mother-infant bonding levels than those who had not planned their pregnancies. Similar results have been obtained in previous studies (Akyüz, 2017; Çankaya, Dereli Yılmaz, Can, & Değerli Kodaz, 2017; Kurt & Çelikay Söyler, 2022).

It was found in this study that COVID-19 fear levels did not affect mother-infant bonding significantly. Layton, Owais, Savoy, and Van Lieshout (2021), who studied mother-infant bonding levels before and during the COVID-19 pandemic, did not find a statistically significant difference between these periods. These results may be associated with the possibility that the COVID-19 pandemic increased the desire of mothers to protect their babies and give them better care. It is also considered that the establishment of skin-on-skin contact between mothers who did not show COVID-19 symptoms and their babies right after childbirth, the mother and her baby staying in the same room, and the initiation of breastfeeding within the first hour are influential on the establishment of mother-infant bonding. The implementation of visitor restrictions due to the pandemic may have led the participants to spend more time with their babies, have more rest, and provide better care for their babies.

Breastfeeding is an effective method in the formation of mother-infant bonding. Therefore, sufficient breastfeeding facilitates the emotional attendance of the mother to her baby and

Table 4. Mean fear of COVID-19 scale, MIBS, and BSES-SF scores distributed based on the characteristics of the mothers and the babies.

Variables	Categories	Fear of COVID-19		
		scale X ± SD	MIBS X ± SD	BSES-SF X ± SD
Age	18–23 years	20.06 ± 3.52	1.01 ± 1.43	47.18 ± 8.56
	24–29 years	19.62 ± 4.01	1.36 ± 1.66	48.04 ± 8.41
	30–35 years	20.10 ± 3.58	1.30 ± 1.61	48.7 ± 7.88
	Older than 35 years	21.57 ± 3.61	1.53 ± 1.34	51.82 ± 5.84
<i>Test/p</i>		<i>F</i> = 1.957 <i>p</i> = 0.121	<i>F</i> = 0.904 <i>p</i> = 0.440	<i>F</i> = 2.229 <i>p</i> = 0.085
Marital status	Married	20.07 ± 3.76	1.26 ± 1.54	48.45 ± 8.12
	Single	20.25 ± 4.34	2.50 ± 2.64	48.50 ± 8.81
<i>Test/p</i>		<i>t</i> = -0.092 <i>p</i> = 0.941	<i>t</i> = -1.568 <i>p</i> = 0.118	<i>t</i> = -0.011 <i>p</i> = 0.992
Family type	Nuclear family	20.30 ± 3.50	1.31 ± 1.54	48.39 ± 8.28
	Extended family	19.68 ± 4.28	1.28 ± 1.64	48.76 ± 7.88
	Fragmented family	18.00 ± 3.74	0.20 ± 0.44	45.80 ± 6.14
<i>Test/p</i>		<i>F</i> = 1.507 <i>p</i> = 0.224	<i>F</i> = 1.245 <i>p</i> = 0.290	<i>F</i> = 0.327 <i>p</i> = 0.722
Education level	Primary school	20.31 ± 3.04	1.87 ± 1.68	49.06 ± 8.40
	Middle school	19.89 ± 4.16	1.36 ± 1.74	49.22 ± 8.40
	High school	20.24 ± 3.74	1.28 ± 1.43	47.86 ± 8.20
	University	19.98 ± 3.69	0.58 ± 0.88	47.22 ± 7.16
<i>Test/p</i>		<i>F</i> = 0.189 <i>p</i> = 0.904	<i>F</i> = 6.078 <i>p</i> = 0.001	<i>F</i> = 0.871 <i>p</i> = 0.456
Working	Yes	20.25 ± 4.61	0.57 ± 0.69	48.82 ± 8.26
	No	20.05 ± 3.65	1.37 ± 1.61	48.41 ± 8.11
<i>Test/p</i>		<i>t</i> = 0.256 <i>p</i> = 0.798	<i>t</i> = -2.592 <i>p</i> = 0.010	<i>t</i> = 0.251 <i>p</i> = 0.802
Has tested positive for COVID-19 during pregnancy	Yes	20.42 ± 4.63	1.24 ± 1.37	49.96 ± 5.53
	No	20.02 ± 3.62	1.29 ± 1.59	48.23 ± 8.41
<i>Test/p</i>		<i>t</i> = 0.472 <i>p</i> = 0.640	<i>t</i> = -0.174 <i>p</i> = 0.862	<i>t</i> = 1.147 <i>p</i> = 0.253
Number of pregnancies	1–2	20.27 ± 3.89	0.89 ± 1.26	47.25 ± 8.81
	3–4	19.65 ± 3.86	1.61 ± 1.69	50.04 ± 7.19
	5 or more	20.66 ± 2.59	1.83 ± 1.85	48.20 ± 7.27
<i>Test/p</i>		<i>F</i> = 1.187 <i>p</i> = 0.307	<i>F</i> = 8.431 <i>p</i> = 0.000	<i>F</i> = 3.420 <i>p</i> = 0.034
Number of children	1	20.29 ± 3.61	0.81 ± 1.22	45.78 ± 8.42
	2	20.25 ± 4.10	1.11 ± 1.36	49.45 ± 8.05
	3 or more	19.78 ± 3.55	1.80 ± 1.81	49.46 ± 7.55
<i>Test/p</i>		<i>F</i> = 0.450 <i>p</i> = 0.638	<i>F</i> = 9.423 <i>p</i> = 0.000	<i>F</i> = 5.476 <i>p</i> = 0.005
Planned her pregnancy	Yes	19.95 ± 3.71	1.12 ± 1.46	48.55 ± 8.21
	No	20.29 ± 3.85	1.58 ± 1.69	48.27 ± 7.98
<i>Test/p</i>		<i>t</i> = -0.690 <i>p</i> = 0.491	<i>t</i> = -2.259 <i>p</i> = 0.025	<i>t</i> = 0.266 <i>p</i> = 0.790
Breastfed her other children	Yes	19.87 ± 3.69	1.38 ± 1.53	49.57 ± 7.95
	No	20.54 ± 3.89	1.05 ± 1.61	45.83 ± 7.94
<i>Test/p</i>		<i>t</i> = -1.305 <i>p</i> = 0.193	<i>t</i> = 1.578 <i>p</i> = 0.116	<i>t</i> = 3.460 <i>p</i> = 0.001
Gestational week at birth	37 weeks or sooner	20.13 ± 3.78	1.66 ± 1.18	46.73 ± 11.25
	38 weeks or later	20.07 ± 3.76	1.24 ± 1.59	48.62 ± 7.75
<i>Test/p</i>		<i>t</i> = 0.071 <i>p</i> = 0.944	<i>t</i> = 1.315 <i>p</i> = 0.190	<i>t</i> = -1.064 <i>p</i> = 0.288
Birth weight	2500 g or lower	22.42 ± 4.75	2.28 ± 2.36	48.00 ± 11.16
	2500 g or higher	20.01 ± 3.72	1.25 ± 1.53	48.47 ± 8.04
<i>Test/p</i>		<i>t</i> = 1.682 <i>p</i> = 0.094	<i>t</i> = 1.720 <i>p</i> = 0.087	<i>t</i> = -1.151 <i>p</i> = 0.880
Sex	Female	20.39 ± 3.67	1.42 ± 1.51	48.79 ± 7.19

(Continued)

Table 4. Continued.

Variables	Categories	Fear of COVID-19 scale X ± SD	MIBS X ± SD	BSES-SF X ± SD
<i>Test/p</i>	Male	19.76 ± 3.83 <i>t</i> = 1.362 <i>p</i> = 0.175	1.14 ± 1.59 <i>t</i> = 1.459 <i>p</i> = 0.146	48.12 ± 8.95 <i>t</i> = 0.667 <i>p</i> = 0.505
Breastfeeding frequency (per day)	Less than 5 times	21.88 ± 3.75	1.77 ± 2.34	42.55 ± 10.85
	5–10 times	20.49 ± 3.92	1.28 ± 1.64	47.61 ± 9.39
<i>Test/p</i>	More than 10 times	19.71 ± 3.64 <i>F</i> = 3.386 <i>p</i> = 0.035 1 > 3*	1.23 ± 1.42 <i>F</i> = 0.974 <i>p</i> = 0.379	49.43 ± 6.86 <i>F</i> = 6.646 <i>p</i> = 0.002 3-2 > 1*
Fed with	Only breastmilk	19.70 ± 4.16	1.31 ± 1.56	51.68 ± 7.00
	Breastmilk and formula	20.58 ± 3.09 <i>t</i> = -1.865 <i>p</i> = 0.063	1.24 ± 1.57 <i>t</i> = 0.366 <i>p</i> = 0.715	44.1 ± 7.48 <i>t</i> = 8.327 <i>p</i> = 0.000

Abbreviations: MIBS: Taylor Mother-to-Infant Bonding Scale **BSES-SF:** Breastfeeding Self-Efficacy Scale (Short Form) *F* = ANOVA variance analysis *t* = Independent *t* test. *Tamhane's T2 test, **Tukey Post Hoc test.

Table 5. Correlations between the fear of COVID-19 scale, MIBS, and BSES-SF scores of the mothers.

Scales		COVID-19	MIBS	BSES-SF
COVID-19	<i>r</i> ^a	–		
	<i>p</i>			
MIBS	<i>r</i> ^a	0.084	–	
	<i>p</i>	0.108		
BSES-SF	<i>r</i> ^a	–0.203	0.010	
	<i>p</i>	0.001*	0.879	–

Abbreviations: MIBS: Taylor Mother-to-Infant Bonding Scale **BSES-SF:** Breastfeeding Self-Efficacy Scale (Short Form) ^a*Pearson korelasyon analizi.* **p* < 0.05

Table 6. Regression analysis of the fear of COVID-19 scale and BSES-SF scores of the mothers.

Variable		B	Standard Error	Beta	<i>t</i>	<i>p</i>
Fear of COVID-19 Scale	Constant	57.254	2.697		21.227	0.000*
	Fear of COVID-19	–0.438	0.132	–0.203	–3.318	0.001**

R = 0.203, *R*² = 0.041, *F*_(1, 256) = 11.009, **p* < 0.001, ***p* < 0.05.

allows the formation of secure mother-infant bonding (Gibbs, Forste, & Lybbert, 2018). The breastfeeding self-efficacy levels of the mothers who participated in our study were determined to be high. Previous studies have shown similar results (Ergezen, Efe, Çalışkan Özdöl, & Dikmen, 2021; Maleki-Saghooni, Amel Barez, Moeindarbari, & Karimi, 2017; Monteiro, Guimaraes, Melo, & Bonelli, 2020). In this study, the breastfeeding self-efficacy levels of the participants were significantly affected by their number of pregnancies, number of living children, statuses of breastfeeding their previous children, breastfeeding frequency, and the types of food they used to feed their babies. Some studies have revealed a positive relationship between the breastfeeding self-efficacy of mothers and the number of their pregnancies, the number of their living children, and their experience of breastfeeding their previous children (Bartle & Harvey, 2017; Ergezen et al., 2021; Tsaras et al., 2021). The high breastfeeding self-efficacy levels of mothers who have more children may be associated with the fact that they have participated the breastfeeding process before, and they have breastfeeding experience. Mothers who have breastfeeding experience may have accumulated knowledge as they have breastfed before. This knowledge base may increase their self-confidence.

In our study, the breastfeeding self-efficacy levels of the participants were determined to differ significantly based on their frequency of breastfeeding and the type of food they used to feed their babies. Palancı (2019) also found that as the breastfeeding frequency of mothers increased, their breastfeeding self-efficacy levels also increased. Other studies have shown higher breastfeeding self-efficacy levels among mothers who feed their babies with breastmilk (Erol, 2020; Karataş, 2019; Zadeh Beheshti, Alimoradi, Bahrami, Allen, & Lissack, 2022). Mothers who breastfeed their babies frequently and feed them with breastmilk are constantly in contact with them. It is believed that this situation can increase their breastfeeding self-efficacy and feelings of being sufficient for their babies.

In the literature, it has been observed that natural and man-made disasters affect the psycho-emotional sensitivity of mothers and the breastfeeding of their babies negatively (Crew, 2019; Maunder, 2004). It was reported that during the COVID-19 pandemic, fear of COVID-19 and associated factors influenced breastfeeding among mothers (Uzun, Öztürk, Bozkurt, & Çavuşoğlu, 2021). In this study, as the COVID-19 fear levels of the participants increased, their frequency of breastfeeding their babies decreased. Studies conducted in different countries have revealed that the COVID-19 pandemic increases the concerns of mothers about breastfeeding and leads to a reduction in their breastfeeding frequency (Brown & Shenker, 2021; Caparros-Gonzalez, Pérez-Morente, Hueso-Montoro, Álvarez-Serrano, & de la Torre-Luque, 2020; Ceulemans et al., 2020; Doshi, Mehendale, Nayak, Bhosale, & Koria, 2021; Uzun et al., 2021). The reason for the reduced breastfeeding frequency of mothers or their cessation of breastfeeding may be associated with their suspicion of being COVID-19-positive. As the virus causing COVID-19 is not visible to the human eye and can spread very easily, mothers might not want to breastfeed their babies to protect their babies' health.

In addition to breastfeeding frequency, it was found that the breastfeeding self-efficacy of the participants was also influenced by the COVID-19 pandemic. As the COVID-19 fear levels of the participants of our study increased, their breastfeeding self-efficacy levels decreased. In a similar study, it was seen that mothers experienced high levels of fear of contracting COVID-19, and COVID-19-related anxiety reduced their breastfeeding self-efficacy (Ataman Bor, İpekçi, & Öztürk, 2021).

Limitations

This study was conducted at a single hospital in one province of Turkey. Therefore, the results of the study can only be generalized to the relevant population. Regarding the topic of the study, studies involving screening, follow-up, and education programmes with broader samples with different sociocultural characteristics can be planned.

Conclusion and recommendations

In this study, it was found that the mothers had moderate COVID-19 fear levels, they did not experience mother-infant bonding problems, and their breastfeeding self-efficacy levels were high. As the COVID-19 fear levels of the participants increased, their breastfeeding self-efficacy levels decreased. It was determined that education level, working status, number of pregnancies, number of children, breastfeeding frequency, and breastfeeding experience affected the COVID-19 fear levels, breastfeeding self-efficacy, and mother-infant bonding levels of the participants. It may be recommended to assess the COVID-19 fear, breastfeeding self-efficacy, and mother-infant bonding levels of mothers in the prenatal and postpartum periods.

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Authorship statement

MP and İY designed the study. İY and MP were responsible for data management and data analysis. All authors drafted and revised the manuscript.

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References

- Ahorsu, D. K., Lin, C. Y., Imani, V., Saffari, M., Griffiths, M. D., & Pakpour, A. H. (2020). The fear of COVID-19 scale: Development and initial validation. *International Journal of Mental Health and Addiction*, 20(3), 1537–1545. doi:10.1007/s11469-020-00270-8
- Akyüz, Y. (2017). *Doğum yapan kadınların maternal bağlanma ve emzirme öz yeterliliği ilişkisi*. İstanbul: Yüksek Lisans Tezi, Okan Üniversitesi Sağlık Bilimleri Enstitüsü.
- Altay, G., & Arıkan, D. (2021). COVID-19 pandemisinde yenidoğanlarda güvenli maternal bağlanma ve emzirme. *Gümüşhane Üniversitesi Sağlık Bilimleri Dergisi*, 10(4), 993–999. doi:10.37989/gumussagbil.870322
- Aluş-Tokat, M., Okumus, H., & Dennis, C. L. (2010). Translation and psychometric assessment of the breast-feeding self-efficacy scale—Short form among pregnant and postnatal women in Turkey. *Midwifery*, 26(1), 101–108. doi:10.1016/j.midw.2008.04.002
- Ataman Bor, N., İpekçi, N. N., & Öztürk, M. (2021). Emziren annelerin koronavirüs anksiyetesi ve emzirme öz yeterlilikleri arasındaki ilişkinin değerlendirilmesi. *Göbeklitepe Sağlık Bilimleri Dergisi*, 4(4), 70–86.
- Aydın, A. (2021). *Preterm ve term doğum yapan kadınların postpartum Beck depresyon, postpartum spesifik anksiyete, kadın cinsel işlevi, Carol cinsel fonksiyon ve dispareni değerlendirme ölçekleri ve COVID-19 korku ölçeği karşılaştırması*. İstanbul: Tıpta Uzmanlık Tezi, Sağlık Bilimleri, Üniversitesi.
- Barba-Müller, E., Craddock, S., Carmona, S., & Hoekzema, E. (2019). Brain plasticity in pregnancy and the postpartum period: links to maternal caregiving and mental health. *Archives of Women's Mental Health*, 22(2), 289–299. doi:10.1007/s00737-018-0889-z
- Bartle, N. C., & Harvey, K. (2017). Explaining infant feeding: The role of previous personal and vicarious experience on attitudes, subjective norms, self-efficacy, and breastfeeding outcomes. *British Journal of Health Psychology*, 22(4), 763–785. doi:10.1111/bjhp.12254
- Brown, A., & Shenker, N. (2021). Experiences of breastfeeding during COVID-19: Lessons for future practical and emotional support. *Maternal & Child Nutrition*, 17(1), e13088. doi:10.1111/mcn.13088
- Çankaya, S., Dereli Yılmaz, S., Can, R., & Değerli Kodaz, N. (2017). Postpartum depresyonun maternal bağlanma üzerine etkisi. *ACU Sağlık Bil Derg*, 4, 232–240.
- Caparros-Gonzalez, R. A., Pérez-Morente, M. A., Hueso-Montoro, C., Álvarez-Serrano, M. A., & de la Torre-Luque, A. (2020). Congenital, intrapartum and postnatal maternal-fetal-neonatal SARS-CoV-2 infections: A narrative review. *Nutrients*, 12(11), 3570. doi:10.3390/nu12113570
- Ceulemans, M., Verbakel, J. Y., Van Calsteren, K., Eerdeken, A., Allegaert, K., & Foulon, V. (2020). Sars-CoV-2 infections and impact of the COVID-19 pandemic in pregnancy and breastfeeding: Results from an observational study in

- primary care in Belgium. *International Journal of Environmental Research and Public Health*, 17(18), 6766. doi:10.3390/ijerph17186766
- Çınar, N., Sözeri, C., Dede, C., & Cevahir, R. (2010). *Anne ve bebeğin aynı odada uyumasının emzirmeye etkisi*, 235–241. Maltepe Üniversitesi Hemşirelik Bilim ve Sanatı Dergisi Sempozyum Özel Sayısı.
- Crew, C. (2019). Infant and young child feeding practices in the context of natural disasters: A systematic review. *Women and Birth*, doi:10.17615/gdpcj-mb62
- Cuijilts, I., Van De Wetering, A. P., Endendijk, J. J., Van Baar, A. L., Potharst, E. S., & Pop, V. J. M. (2019). Risk and protective factors for pre- and postnatal bonding. *Infant Mental Health Journal*, 40(6), 768–785. doi:10.1002/imhj.21811
- Demir Acar, M., Günay, U., & Çevik Güner, Ü. (2018). Bebeği konjenital anomalili doğan annenin anne-bebek bağlanmasında yaşadığı güçlükler ve hemşirenin rolü. *Türkiye Klinikleri Journal of Nursing Sciences*, 10(2), 169–176. doi:10.5336/nurses.2017-58647
- Dennis, C. L. (2003). The breastfeeding self-efficacy scale: Psychometric assessment of the short form. *J Obstet Gynecol Neonatal Nurs*, 32(6), 734–744. doi:10.1177/0884217503258459
- Dennis, C. L., & Faux, S. (1999). Development and psychometric testing of the breastfeeding self-efficacy scale. *Research in Nursing & Health*, 22(5), 399–409. doi: 10.1002/(sici)1098-240x(199910)22:5<399::aid-nur6>3.0.co;2-4
- Döndar, Ş. (2021). *Postpartum dönemde annelerin maternal bağlanma düzeyleri ve etkileyen faktörler*. İstanbul: Yüksek Lisans Tezi, İstanbul Medipol Üniversitesi Sağlık Bilimleri Enstitüsü.
- Doshi, B., Mehendale, M. A., Nayak, A. H., Bhosale, A. A., & Koria, R. (2021). Study of anxiety, fear and depression associated with breastfeeding in COVID-positive mothers. *Journal of South Asian Federation of Obstetrics and Gynaecology*, 13(5), 296–300. doi: 10.5005/jp-journals-10006-1931
- Ekiz, T., İlman, E., & Dönmez, E. (2020). Bireylerin sağlık anksiyetesi düzeyleri ile COVID-19 salgını kontrol algısının karşılaştırılması. *USAYSAD Dergisi*, 6(1), 139–154.
- Engin, N. (2021). *Anne-bebek bağlanmasının annelik algısı ve bazı değişkenlere göre incelenmesi*. Zonguldak: Yüksek Lisans Tezi, Zonguldak Bülent Ecevit Üniversitesi Sağlık Bilimleri Enstitüsü.
- Ergezen, Y., Efe, E., Çalişkan Özdoğru, F., & Dikmen, Ş. (2021). Doğum sonu dönemde annelerin emzirme öz-yeterlilik algıları ile emzirme başarıları arasındaki ilişki. *DEUHFED*, 14(3), 217–223. doi:10.46483/deuhfed.675733
- Erol, D. D. (2020). *Annelerin emzirme öz yeterlilik düzeyinin bebeği emzirme devamlılığına etkisi*. İstanbul: Yüksek Lisans Tezi, Üsküdar Üniversitesi Sağlık Bilimleri Enstitüsü.
- Fernandes, D. V., Canavarro, M. C., & Moreira, H. (2021). Postpartum during COVID-19 pandemic: Portuguese mothers' mental health, mindful parenting, and mother–infant bonding. *Journal of Clinical Psychology*, 77(9), 1997–2010. doi:10.1002/jclp.23130
- Fry, H. L., Levin, O., Kholina, K., Bianco, J. L., Gallant, J., Chan, K., & Whitfield, K. C. (2021). Infant feeding experiences and concerns among caregivers early in the COVID-19 State of Emergency in Nova Scotia, Canada. *Maternal & Child Nutrition*, 17(3), e13154. doi:10.1111/mcn.13154
- Gao, J., Zheng, P., Jia, Y., Chen, H., Mao, Y., Chen, S., ... Dai, J. (2020). Mental health problems and social media exposure during COVID-19 outbreak. *Plos One*, 15(4), e0231924. doi:10.1371/journal.pone.0231924
- Gibbs, B. G., Forste, R., & Lybbert, E. (2018). Breastfeeding, parenting, and infant attachment behaviors. *Maternal and Child Health Journal*, 22(4), 579–588. doi:10.1007/s10995-018-2427-z
- Jungari, S. (2020). Maternal mental health in India during COVID-19. *Public Health*, 185(1), 97–98. doi:10.1016/j.puhe.2020.05.062
- Kanber, B. (2021). *0-6 ay arası bebeği olan annelerin COVID-19 korkusu ile emzirme tutumları arasındaki ilişkinin incelenmesi*. İstanbul: Yüksek Lisans Tezi, İstanbul Okan Üniversitesi.
- Karakulak Aydemir, H., & Alparslan, Ö. (2016). Adaptation of mother to infant bonding scale to the Turkish society: Aydın sample. *Journal of Contemporary Medicine*, 6(3), 188–199. doi:10.16899/ctd.45668
- Karataş, Ö. (2019). *Annelerin emzirme öz yeterliliğinin ilk üç ayda bebeklerin beslenmesine olan etkileri*. Tıpta Uzmanlık Tezi, Sağlık Bilimleri Üniversitesi Kartal Dr. Lütfi Kırdar Sağlık Uygulama ve Araştırma Merkezi, İstanbul.
- Karimi, A., Tara, F., Khadivzadeh, T., & Aghamohammadian Sharbaf, H. R. (2013). The effect of skin to skin contact immediately after delivery on the maternal attachment and anxiety regarding infant. *The Iranian Journal of Obstetrics, Gynecology and Infertility*, 16(67), 7–15. doi:10.22038/IJOGI.2013.1906
- Keskin, F., & Yağmur, Y. (2020). The factors affecting maternal attachment in Eastern Turkey. *International Journal of Caring Sciences*, 13(2), 858–866.
- Köse, D., Çınar, N., & Altınkaynak, S. (2013). Yenidoğanın anne ve baba ile bağlanma süreci. *STED/Sürekli Tıp Eğitimi Dergisi*, 22(6), 238–244.
- Kurt, A., & Çelikay Söyler, H. (2022). COVID-19 döneminde doğum yapan kadınlarda maternal bağlanma, obsesif kompulsif bozukluk ve perinatal anksiyete ilişkisi. *Sosyal, Beşeri ve İdari Bilimler Dergisi*, 5(3), 225–235.
- Latorre, G., Martinelli, D., Guida, P., Masi, E., De Benedictis, R., & Maggio, L. (2021). Impact of COVID-19 pandemic lockdown on exclusive breastfeeding in non-infected mothers. *International Breastfeeding Journal*, 16(1), 36. doi:10.1186/s13006-021-00382-4
- Layton, H., Owais, S., Savoy, C. D., & Van Lieshout, R. J. (2021). Depression, anxiety, and mother-infant bonding in women seeking treatment for postpartum depression before and during the COVID-19 pandemic. *The Journal of Clinical Psychiatry*, 82(4), 21m13874. doi:10.4088/JCP.21m13874

- Liu, N., Zhang, F., Wei, C., Jia, Y., Shang, Z., Sun, L., ... Liu, W. (2020). Prevalence and predictors of PTSS during COVID-19 outbreak in China hardest-hit areas: Gender differences matter. *Psychiatry Research*, 287(1), 112921. doi:10.1016/j.psychres.2020.112921
- Maleki-Saghooni, N., Amel Barez, M., Moeindarbari, S., & Karimi, F. Z. (2017). Investigating the breastfeeding self-efficacy and its related factors in primiparous breastfeeding mothers. *International Journal of Pediatrics*, 5(12), 6275–6283. doi:10.22038/ijp.2017.25656.2182
- Matvienko-Sikar, K., Meedy, S., & Raval, C. (2020). Perinatal mental health during the COVID-19 pandemic women. *Women and Birth*, 33(4), 309–310. doi:10.1016/j.wombi.2020.04.006
- Mauder, R. (2004). The experience of the 2003 SARS outbreak as a traumatic stress among frontline healthcare workers in Toronto: lessons learned. *Philosophical Transactions of the Royal Society of London. Series B: Biological Sciences*, 359(1447), 1117–1125. doi:10.1098/rstb.2004.1483
- Monteiro, J. C. S., Guimaraes, C. M. S., Melo, L. C. O., & Bonelli, M. C. P. (2020). Breastfeeding self-efficacy in adult women and its relationship with exclusive maternal breastfeeding. *Revista Latino-Americana de Enfermagem*, 28(1), e3364. doi:10.1590/1518-8345.3652.3364
- Palancı, Ö. (2019). *Annelerin emzirme öz yeterliliğine annelik fonksiyonel ve postpartum depresyon durumunun etkisi*. Trabzon: Yüksek Lisans Tezi, Karadeniz Teknik Üniversitesi Sağlık Bilimleri Enstitüsü.
- Popofsky, S., Noor, A., Leavens-Maurer, J., Quintos-Alagheband, M. L., Mock, A., Vinci, A., ... Krilov, L. (2020). Impact of maternal severe acute respiratory syndrome coronavirus 2 detection on breastfeeding due to infant separation at birth. *The Journal of Pediatrics*, 226, 64–70. doi:10.1016/j.jpeds.2020.08.004
- Saccone, G., Florio, A., Aiello, F., Venturella, R., De Angelis, M. C., Locci, M., ... Di Spiezo Sardo, A. (2020). Psychological impact of coronavirus disease 2019 in pregnant women. *American Journal of Obstetrics and Gynecology*, 223(2), 293–295. doi:10.1016/j.ajog.2020.05.003
- Satici, B., Gocet-Tekin, E., Deniz, M. E., & Satici, S. A. (2021). Adaptation of the fear of COVID-19 scale: Its association with psychological distress and life satisfaction in Turkey. *International Journal of Mental Health and Addiction*, 19(6), 1980–1988. doi:10.1007/s11469-020-00294-0
- Sevimli, A. (2021). *Lohusalarnın koronavirus (COVID-19) korkusu ve doğum sonu destek gereksinimlerinin belirlenmesi*. İstanbul: Yüksek Lisans Tezi, İstinye Üniversitesi.
- Suzuki, S. (2020). Psychological status of postpartum women under the COVID-19 pandemic in Japan. *The Journal of Maternal-Fetal & Neonatal Medicine*, 35(9), 1798–1800. doi:10.1080/14767058.2020.1763949
- Taylor, A., Atkins, R., Kumar, R., Adams, D., & Glover, V. (2005). A new mother-to-infant bonding scale: Links with early maternal mood. *Archives of Women's Mental Health*, 8(1), 45–51. doi:10.1007/s00737-005-0074-z
- Tsaras, K., Sorokina, T., Papathanasiou, I. V., Fradelos, E. C., Papagiannis, D., & Koulierakis, G. (2021). Breastfeeding self-efficacy and related socio-demographic, perinatal and psychological factors: A cross-sectional study among postpartum Greek women. *Materia Socio Medica*, 33(3), 206–212. doi:10.5455/msm.2021.33.206-212
- Turhal, A. (2019). *Gebelik ve doğum sonrası dönemde anne bebek bağlanması ve annelerin kaygı düzeyleri*. Düzce: Yüksek Lisans Tezi, Düzce Üniversitesi Sağlık Bilimleri Enstitüsü.
- Uzun, A., Öztürk, G. Z., Bozkurt, Z., & Çavuşoğlu, M. (2021). Investigating of fear of COVID-19 after pregnancy and association with breastfeeding. *Journal of Ideas in Health*, 4(1), 327–333. doi:10.47108/jidhealth.Vol4.Iss1.98
- Wilson, A., Raval, C., Scoullar, M. J. L., Vogel, J. P., Szabo, R. A., Fisher, J. R. W., & Homer, C. S. E. (2020). Caring for the carers: Ensuring the provision of quality maternity care during a global pandemic. *Women and Birth*, 34(3), 206–209. doi:10.1016/j.wombi.2020.03.011
- World Health Organization (WHO). (2020). Director-General's remarks at the media briefing on 2019-nCoV on 11 February 2020. Retrieved September 26, 2022 from <https://www.who.int/director-general/speeches/detail/who-director-general-s-opening-remarks-at-the-media-briefing-on-covid-19-11-march-2020>
- Zadeh Beheshti, M. A., Alimoradi, Z., Bahrami, N., Allen, K. A., & Lissack, K. (2022). Predictors of breastfeeding self-efficacy during the COVID-19 pandemic. *Journal of Neonatal Nursing*, 28(5), 349–355. doi:10.1016/j.jnn.2021.08.012
- Zanardo, V., Manghina, V., Giliberti, L., Vettore, M., Severino, L., & Straface, G. (2020). Psychological impact of COVID-19 quarantine measures in northeastern Italy on mothers in the immediate postpartum period. *International Journal of Gynecology & Obstetrics*, 150(2), 184–188. doi:10.1002/ijgo.13249
- Zanardo, V., Tortora, D., Guerrini, P., Gianpaolo, G., Severino, L., Soldera, G., & Straface, G. (2021). Infant feeding initiation practices in the context of COVID-19 lockdown. *Early Human Development*, 152(1), 105286. doi:10.1016/j.earlhumdev.2020.105286