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Breastfeeding Attitudes and Experiences of Breastfeeding Women Infected With Covid-19: A Mixed Methods Study

Covid-19 ile Enfekte Emziren Kadınların Emzirme Tutumları ve Deneyimleri: Karma Yöntemler Araştırması

Serap ÖZTÜRK ALTINAYAK[1], Elif VELİOĞLU[2], Serap EJDER APAY[3]

[1]Ondokuz Mayıs University Faculty of Health Science Department of Midwifery, Samsun
· **serapozturk88@hotmail.com** · ORCİD > 0000-0002-3882-0966

[2]Marmara University, Health Sciences Institute, İstanbul
· **elifff.ilgun@hotmail.com** · ORCİD > 0000-0001-7312-2787

[3]Atatürk University Faculty of Health Science Department of Midwifery, Erzurum
· **sejder@hotmail.com** · ORCİD > 0000-0003-0978-1993

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Sorumlu Yazar/Corresponding Author: Serap ÖZTÜRK ALTINAYAK

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BREASTFEEDING ATTITUDES AND EXPERIENCES OF BREASTFEEDING WOMEN INFECTED WITH COVID-19: A MIXED METHODS STUDY

ABSTRACT

Aim: The aim of this study was to learn more about the attitudes and experiences of breastfeeding women infected with COVID-19.

Method: A convergent parallel mixed methods design was used to conduct the study. The study included breastfeeding women who presented COVID-19 symptoms and tested positive for COVID-19, and who sought care at a community health center in a province located in the Black Sea region of Turkey. Quantitative and qualitative data for the study were collected online between July 2021 and February 2022. Data for the study were collected using the 'Socio-demographic Information Form', the 'Breastfeeding Attitude Scale' and the 'Semi-structured Interview Form'. Data were collected from 82 women for the quantitative part and seven women for the qualitative part. Before the research began, study approval was obtained from the TR Ministry of Health and ethical approval was granted by the Clinical Research Ethics Committee of Ondokuz Mayıs University (25 June 2021/ OMU KAEK2021/316).

Results: The number of children, age of the baby, breastfeeding initiation and nutritional status of the baby were found to influence breastfeeding attitudes. The overall mean score of the breastfeeding attitude rating scale was 91.77±10.63. Five themes were identified as a result of the content analysis: "Women's feelings during the disease," "How the disease affects the babies," "Woman-baby contact," "COVID-19 and breastfeeding," and "Status of support for women".Conclusions and Suggestions: It was found that women's attitudes towards breastfeeding during the disease process are moderate, that they experience considerable anxiety during this time, and that the support they receive affects both their psychological state and their attitudes towards breastfeeding. During this process, continuous online or phone support may improve women's attitudes towards breastfeeding.

Keywords: Breastfeeding, COVID-19, Midwife, Mixed Methods, Women.

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COVİD-19 İLE ENFEKTE EMZİREN KADINLARIN EMZİRME TUTUMLARI VE DENEYİMLERİ: KARMA YÖNTEMLER ARAŞTIRMASI

ÖZ

Amaç: Bu araştırma; COVİD-19 ile enfekte emziren kadınların emzirme tutumları ve deneyimlerinin özünü ortaya koymak amacıyla yapılmıştır.

Yöntem: Araştırmada yakınsayan paralel karma yöntem tasarımı kullanılmıştır. Çalışmaya karadeniz bölgesinde bir ilde bulunan bir toplum sağlığı merkezine COVİD-19 semptomları ile başvuran ve COVİD-19 testi pozitif olan emziren kadınlar katılmıştır. Araştırmanın nicel ve nitel verileri Temmuz 2021- Şubat 2022 tarihleri arasında çevrimiçi olarak toplanmıştır. Araştırmanın verileri "Sosyodemografik Bilgi Formu", "Emzirme Tutumunu Değerlendirme Ölçeği" ve "Yarı Yapılandırılmış Görüşme Formu" kullanılarak toplanmıştır. Nicel bölüm için 82, nitel bölüm için 7 kadından veriler toplanmıştır. Araştırmaya başlamadan önce TC Sağlık Bakanlığı'ndan çalışma onayı ve Ondokuz Mayıs Üniversitesi Klinik Araştırmalar Etik Kurulu'ndan etik onay alınmıştır (25 Haziran 2021/ OMU KAEK2021/316).

Bulgular: Çocuk sayısı, bebeklerin ayları, emzirmeye yönelik eğitim alma durumları ve bebeğin beslenme durumunun emzirme tutumunu etkilediği bulunmuştur. Emzirme tutumu değerlendirme ölçeği toplam puan ortalamasının 91,77±10,63 olduğu belirlenmiştir. İçerik analizi sonucunda ise "Hastalık boyunca kadınların duyguları", "Hastalık bebekleri nasıl etkiliyor", "Kadın- bebek teması", "COVİD-19 ve emzirme" ve "Kadınların destek alma durumları" olmak üzere beş tema belirlenmiştir.

Sonuçlar ve Öneriler: Kadınların hastalık sürecinde emzirme tutumlarının orta düzeyde olduğu, bu süreçte; yoğun olarak korktukları ve almış oldukları desteğin onların hem ruhsal durumları hem de emzirme tutumları üzerinde etkisi olduğunu ortaya koymuştur. Bu süreçte kadınlara sürekli çevrimiçi veya telefonla destek verilmesi emzirmeye yönelik tutumları iyileştirebilir.

Anahtar Kelimeler: Emzirme, COVİD-19, Ebe, Karma Yöntemler Araştırması, Kadın.

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INTRODUCTION

The World Health Organisation (WHO) assessed the global situation and declared the new coronavirus epidemic that emerged and spread rapidly in China a pandemic in March (WHO, 2020a). Within a very short time of this announcement, millions of people were affected by the COVID-19 pandemic. Concerns were raised about breastfeeding, both for their own health and their babies' health, especially if breastfeeding women in certain groups were infected. WHO recommends that babies be fed exclusively on breast milk for the first 6 months after birth and that breastfeeding should continue until at least two years of age, starting with appropriate complementary foods, and emphasises that breastfeeding should be continued and protected in exceptional situations such as epidemics (WHO, 2004). In addition, a review of current breastfeeding guidelines found that breastfeeding women infected with COVID-19 is not contraindicated (Royal College of Obstetricians & Gynaecologists 2022a; Centres for Disease Control and Prevention, 2021). According to the World Health Organization (WHO), women can safely breastfeed as long as they adhere to certain guidelines. These guidelines include practicing good hand hygiene, wearing masks, regularly ventilating their living spaces, staying well-hydrated, maintaining a balanced and nutritious diet, and washing their clothes at high temperatures during the pandemic (WHO, 2020b). Women thinking about weaning their infant from the breast during the epidemic are urged to postpone their decision. Breastfeeding ensures that the newborn receives the immunogenic components of breast milk. It is also important to remember that withholding breast milk may put the baby at risk if the mother is infected with COVID-19 during the pandemic. It is also important to know that a baby who does not receive breast milk may become vulnerable to all infectious diseases, especially COVID-19, because he or she will not benefit from the protective proteins that the mother's body actively produces against COVID-19 during the disease and passes on in breast milk, as well as from the immunising substances that are naturally present in breast milk (UNICEF UK, 2020).

In the literature, no virus has been detected in breast milk samples from mothers infected with COVID-19 and there are papers reporting negative PCR test results in newborns (Martins-Filho et al., 2020; Chen et al., 2020). However, specific IgG for the pathogen COVID-19 was detected in milk samples from a woman infected with COVID-19 (Yu et al., 2020). This suggests that the antibodies are transferred from the mother's milk to the newborn. On the other hand, there are studies showing that the pandemic affects women's breastfeeding schedules differently and leads to different outcomes (Ceulemans et al., 2020a; Ceulemans et al., 2020b; Hull et al., 2020; Kumar et al., 2020; Snyder & Worlton, 2021). The Hull et al. study of breastfeeding support during the pandemic found that the pandemic reduced the breastfeeding support that women received both formally and informally (Hull

et al., 2020). One case report said that a woman who had just given birth feared infection if she breastfed her baby (Kumar et al., 2020). A study by Ceulemans et al. in Belgium reported that women considered breastfeeding longer because of the coronavirus. However, they also concluded that the limits impacted medical advice and social support for women (Ceulemans et al., 2020a). In Turkey, a study conducted by the Turkish Neonatal Society found that although parents were instructed to feed their newborns breast milk, they preferred formula (Oncel et al., 2021). According to the research findings, women need breastfeeding support, but due to the pandemic, this need is not being met, leaving them alone in this regard, as in many other areas. In doing so, women may worry because they cannot establish skin-to-skin contact with their babies or fear transmitting the virus to their babies. In this process, midwives who care for women play an important role in supporting women on issues such as encouraging mothers to breastfeed for the baby's healthy development and managing the process well. Thus, if midwives know how breastfeeding women's experiences affect the breastfeeding process, midwifery care can be developed to address this issue. Midwives play a crucial role in providing support to women and their infants, aiding them in effectively managing the breastfeeding process.

The literature review revealed that while there is research on topics such as breast milk transmission related to breastfeeding during the pandemic COVID-19 and breastfeeding support, there is no research that addresses the experiences and attitudes of breastfeeding women (Martins-Filho et al., 2020; Chen et al., 2020; Ceulemans et al., 2020a; Ceulemans et al., 2020b; Hull et all., 2020; Kumar et al., 2020; Snyder & Worlton, 2021). The aim of this study is therefore to determine the attitudes and experiences of breastfeeding women infected with COVID-19.

METHOD

Study Design: This study used a convergent parallel mixed-methods design that includes both quantitative and qualitative data. In this design, both qualitative and quantitative data are collected in parallel, analysed and the results combined (Creswell, 2001; Creswell & Plano, 2018). This design is used by combining statistical trends and thematic analysis. As the phenomenon is assessed in this way with a collective understanding, it is intended to allow for method triangulation (Creswell, 2015). In this study, after analysing the results of each dataset independently and equally, the results were combined to explore the associations between attitudes towards breastfeeding and the experiences of breastfeeding women infected with COVID-19 (Fig. 1).

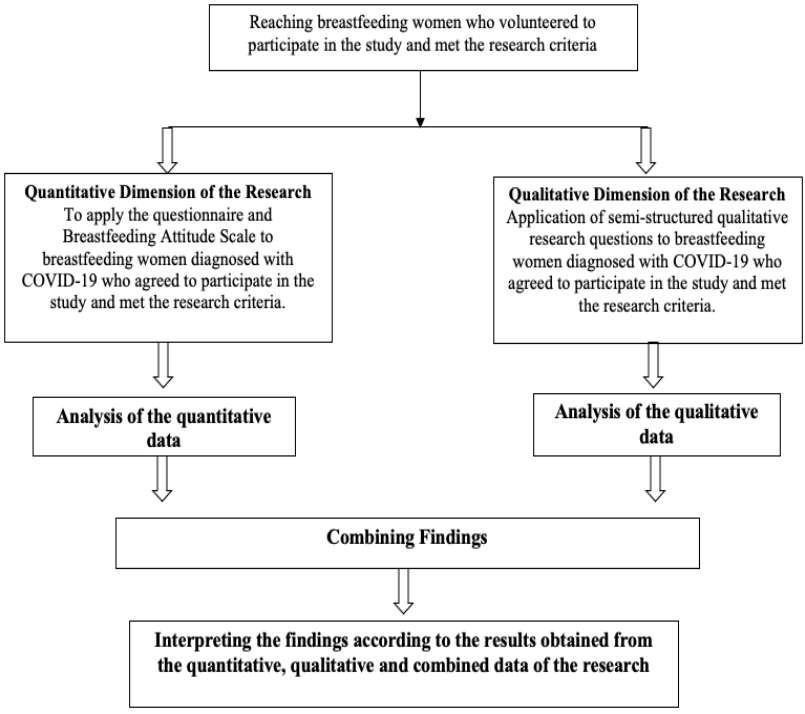

Fig. 1. Flowchart of the research according to the parallel mixed-methods design

Participants: The study used the criterion-based sampling method, which is one of the purposive sampling methods. Women who were infected with COVID-19, breastfeeding, spoke Turkish, volunteered to participate and had access to technology (such as smartphone and internet) participated in the study. Breastfeeding women who applied to a community health centre in a province in the Black Sea region of Turkey with symptoms of COVID-19 and had a positive COVID-19 test participated in the study. The quantitative and qualitative data of the study were collected online between 1 July 2021 and 10 February 2022.

Quantitative Part of the Study

Data Collection: 82 women who met the inclusion criteria his part of the study were reached. Due to the pandemic, the online survey method was used for data collection. Data were collected using a questionnaire and a breastfeeding attitude scale. The questionnaire and scale were uploaded to https://docs.google.com/forms/. The first part of the form explained the purpose and importance of the survey and included a field for respondents' consent. Without this consent, it is not

possible to proceed to the next page. The questionnaires were sent to the women via their preferred means of communication (e.g. email, Whatsapp…). Data his part of the study was collected using a socio-demographic information form and a breastfeeding attitude scale.

Instruments

Socio-demographic questionnaire; The 18-item questionnaire, which was prepared by the researchers based on the literature, contains information such as age, birth history and some socio-demographic characteristics of the infants (Chen at al., 2020; Arslan Özkan, 2015).

Breastfeeding Attitude Scale (BrAS); The scale was developed by Arslan in 1997 to assess mothers' attitudes towards breastfeeding. The scale includes characteristics such as the woman herself, other people and society's attitude towards breastfeeding. The scale consists of 46 questions in a 5-point Likert format. The lowest score on the scale is 0, and the highest score is 184. The higher the score on the scale, the more positive mothers' attitudes towards breastfeeding are rated (Arslan Özkan, 2015).

Analysis of Quantitative Data: The data were analysed using the SPSS (IBM) 22 package programme. Agreement with normal distribution was examined using Kolmogorov-Smirnov and Shapiro Wilk tests. Number, percentile distribution, mean, standard deviation, median, minimum and maximum values, independent two-sample t-test, Kruskal Wallis and Mann Whitney U-test were used to analyse the data. The significance level was taken as $p < 0.05$.

Qualitative Part of the Research

Data Collection: In qualitative research, the aim is to gain a detailed understanding of a complex event or situation and to uncover the participants' context to the research topic. In this context, the researchers conducting this study are actively involved in breastfeeding and providing training for women. They found that women had problems getting breastfeeding support during the pandemic and that infected mothers, in particular, had negative experiences regarding breastfeeding. They were also curious about the experiences of mothers with this disease in relation to breastfeeding, which is why they planned this study. The researchers are both experts in this field and are familiar with qualitative interview and observation techniques. In this study, data was collected by one researcher through in-depth interviews.

For the qualitative part of the study, the women were contacted online. In this phase, the aim of the study and the research process were explained to the women. Then the participants' questions were answered. After this preliminary interview, in-depth interviews were conducted with volunteer women who agreed to participate in the study. During the interviews with the women, it was noticed that the data started to repeat after a while. The process of data collection was stopped with the 7th participant when the data reached saturation.

The instrument used for data collection in this part of the study was a semi-structured interview form based on the research questions prepared by the researchers. Expert opinions were sought for the questions in this interview form. Then 3 pilot interviews were conducted to test the comprehensibility of the questions. The women interviewed for the pilot interviews were not included in the study. After the pilot interviews, the questions were revised and finalised by making necessary corrections. The final semi-structured questionnaire for the interview contains the following questions: "What do you think the Covid-19 disease is?", "What do you think about babies getting this disease?", "What do you think about breastfeeding while infected with COVID-19?", "How does it feel to breastfeed while infected with COVID-19?" , "How does breastfeeding protect your baby from illness during this process?", "How do you think the pandemic has affected your breastfeeding experience?", "How have you dealt with the difficulties of breastfeeding while infected with COVID-19?". The questions are clear, understandable, focused, open and non-directive. The interviews lasted 45 minutes on average.

Analysis of Qualitative Data: After the interviews were completed, the transcripts were transcribed by one researcher and the audio recording and text were read and reviewed simultaneously by another researcher. In this study, the transcripts were carefully read multiple times by two researchers, who then analyzed and discussed them collaboratively. Subsequently, all transcripts were transferred to the MAXODA 2022 programme and coded using the programme and subjected to thematic analysis. The analysis involved re-reading the transcripts with the raw data, classifying the data into conceptual categories and finding the themes by establishing relationships between the codings. This process included open, axial and selective coding phases. In open coding, codes were first created, then the codes were related to each other and many closely related concepts were grouped under a more general concept. Finally, the main themes of the study were identified by rearranging the themes identified in the previous coding. After the first researcher had completed his/her work, the second researcher was asked to review the codes and themes that had emerged. At this point, it was checked whether arriving at the same codes and themes was possible. The feedback from the second researcher matched the themes that the first researcher had found. In this study, the simultaneous collection, coding, analysis and verification of data was carefully done using investigator triangulation. Numbers were used for participants in this study to protect their privacy.

Ethical Statement: Before the research began, study approval was obtained from the TR Ministry of Health and ethical approval was granted by the Clinical Research Ethics Committee of Ondokuz Mayıs University (25 June 2021/ OMU KAEK2021/316). Before participants were enrolled in the study, they were informed about the purpose and procedure of the study and how the information obtained from the participants would be used. Participation in the study was voluntary and participants were informed that they had the right to withdraw from the study at any time. To avoid loss of data during the interviews, voice recordings were made with the consent of the participants.

RESULTS

Results of the Quantitative Part: The distribution of some socio-demographic characteristics of the women and the results of the attitude towards breastfeeding scale are presented in Table1.

Table 1. Distribution of some socio-demographic characteristics of the women and comparison according to the rating scale for breastfeeding attitudes (n= 82)

Features	n	%	BrAS Median (min-max)	BrAS Mean ± sd	Test and p Value
Average age ± sd			27.24±4.07		
Working status					
Working	25	30.5	90.00 (77-117)	91.92±	t=0.085 p= 0.932
Not working	57	69.5	91.00 (71-132)	91.70±11.13	
Educational status of women					
High school graduate	66	80.2	91.00 (71-117)	91.44±9.94	MWU=513 p= 0.860
University and above	16	19.8	90.00 (77-132)	93.13±13.40	
Educational status of spouses					
High school graduate	57	69.0	91.00 (71-117)	91.05±9.64	MWU=667 p= 0.646
University and above	25	31.0	91.00 (76-132)	93.40±12.67	
Family Type					
Nuclear family	69	84.1	92.00 (71-132)	92.51±11.33	t=1.461 p= 0.148
Extended family	13	15.9	89.00 (81-93)	87.85±3.81	
Current economic situation					
Income less than expenses	15	18.3	91.00 (71-104)	89.93±9.20	KW=1.129 p= 0.569
Income equal to expenditure	53	64.6	92.00 (76-132)	92.64±11.46	
Income more than expenditure	14	17.1	88.50 (80-115)	90.43±8.86	

Number of children					
1	25	30.5	95.00 (82-114)	96.52±7.24	KW=14.299 p= 0.001
2	37	45.1	89.00 (71-132)	90.59±12.47	
3 and more	20	24.4	87.00 (76-104)	88.00±8.58	
Was it a planned pregnancy?					
Yes	67	81.7	91.00 (71-132)	92.19±10.79	MWU=435 p= 0.417
No	15	18.3	89.00 (76-105)	89.87±9.98	
Type of birth					
Normal delivery	55	67.1	90.00 (71-132)	90.33±10.16	t= -1.776 p= 0.080
Caesarean section	27	32.9	93.00 (76-117)	94.70±11.09	

BrAS = Breastfeeding Attitude Scale

The distribution of some breastfeeding-related characteristics of the women and the results of the breastfeeding attitude scale are presented in Table 2.

Table 2. Distribution of some breastfeeding-related characteristics of women and comparison of the rating scale for breastfeeding attitudes (n= 82)

Features	**n**	**%**	**BrAS**	**BrAS**	**test and**
			Median (min-max)	**Mean ± sd**	**p value**
Sex of the baby					
Girl	42	51.2	89.00 (77-114)	91.02±8.28	t=1.461
Boy	40	48.8	91.00 (71-132)	92.55±12.69	p= 0.148
Months of babies					
0-6 months	63	75.5	89.00 (71-117)	90.16±9.69	MWU=370.5
7-12 months	19	24.5	98.00 (76-132)	97.11±12.04	p=0.012
Breastfeeding education status					
Yes	54	65.9	89.50 (71-132)	89.91±10.55	KW=535.5
No	28	34.1	93.00 (76-117)	95.36±10.00	p=0.031
From whom did you receive your breastfeeding training?					
I did not learn from anyone	28	34.1	93.00 (76-117)	95.36±10.00	KW=5.429
Midwife	36	43.9	89.00 (76-132)	89.47±11.18	p=0.066
Nurse	18	22.0	91.00 (71-109)	90.78±9.40	

Status of help with baby care					
Yes	37	45.1	91.00 (76-132)	92.73±11.84	MWU=775
No	45	54.9	91.00 (71-114)	90.59±8.95	p=0.591
From whom did you receive help?					
No one	45	53.7	91.50 (71-114)	89.73±9.79	
Mother	22	26.8	91.00 (76-132)	92.77±11.97	KW= 0.022
Mother-in-law	15	19.5	89.50 (82-109)	91.81±7.46	p=0.888
Baby's nutritional status					
Breast milk	55	65.1	89.00 (71-117)	89.05±9.32	t= -3.526
Breast milk and complementary foods	27	34.9	97.00 (76-132)	97.30±11.11	P=0.001
How often did you breastfeed before COVID (+)? (per day)					
Breastfed 2-8 times	46	56.1	91.00 (76-117)	92.93±9.93	MWU= 673
Breastfed 9-14 times	36	43.9	91.00 (71-132)	90.28±11.43	p=0.147
How often did you breastfeed after COVID (+)? (per day)					
Breastfed 2-8 times	71	86.6	90.00 (71-117)	91.30±10.00	t= -1.023
Breastfed 9-14 times	11	13.4	93.00 (78-132)	94.82±14.24	p=0.309

The minimum and maximum scores that can be derived from the BrAS and the average of the total scale are presented in Table 3.

Table 3. The min-max scores that can be achieved and obtained with the bras and the average total scores of the scale

BrAS	The Min-Max Scores That Can Be Achieved from Scale	The Min-Max Scores Obtained from Scale	Mean ± sd
Total	0-184	71-132	91.77±10.63

Content Analysis of the Qualitative Part

The aim of this study was to find out the essence of breastfeeding women's attitudes and experiences towards breastfeeding. In this context, themes were reached in the areas of "Women's feelings during the disease", "How the disease affects the babies", "Contact between woman and baby", "COVID-19 and breastfeeding" and "Status of support for women".

Theme 1: Women's feelings during the disease

In this study, women expressed their fears and anxieties strongly in relation to their illness. Additionally, they reported feeling uncomfortable, isolated, and experiencing sadness.

"I am afraid that my baby will also be infected. I am even more scared because I am breastfeeding... I feel so lonely" (Mother 1)

"It has made me gain distance from my baby. This situation makes me sad....." (Woman 7)

Theme 2: How does the disease affect babies?

Women hold the belief that the disease has minimal impact on infants and that they tend to recover easily. This perception is largely influenced by the information they receive through various channels, including television, social media, and healthcare workers in the contact tracing team, which consistently emphasizes that babies are less affected by the COVID-19 disease.

"I did not have much knowledge. I thought babies had it harder. But the health team said that children and babies are not affected as much as adults....." (Woman 6)

Theme 3: Woman-baby contact

The women said that they had only short-term contact for fear of infecting their babies and that this situation worried them.

"Normally I was very happy to breastfeed my baby. But now I breastfeed and give it to my husband or mother for fear of infection....." (Woman 2)

"It makes me sad that they only brought my baby to breastfeed..." (Woman 1)

Theme 4: COVID-19 and breastfeeding

In this study, the mothers thought about not breastfeeding their babies when they learned they were infected with COVID-19, but turned out to continue breastfeeding with the information they received from the health teams. When they did, the women said they increased the time between breastfeeding, that they were scared and anxious.

"I feel like I am going to infect my baby too". They did say that the disease is not transmitted through breast milk, but I am still scared. At first I thought of not breastfeeding. But they said it was okay...." (Woman 1)

"I used to breastfeed my baby every 2 hours. But now I breastfeed every 3 or 4 hours. I try to be careful in my own way..." (Woman 4)

Theme 5: Status of support for women

While some of the women stated that their husbands, mothers and mothers-in-law supported them during this process, some of them said they tried to manage the process without any support.

"I find it a bit difficult to take care of my baby alone during the day because my husband works...." (Woman 3)

"My mother always helps me at home. If she was not there, I would have a hard time...." (Woman 4)

"My husband helps me. Otherwise, I could not make it....." (Woman 5)

"I have a mother-in-law at home. I just take care of my baby. She takes care of the cooking. At least it's good for our diet...." (Woman 6)

DISCUSSION

This study provided both a statistical and thematic description of breastfeeding attitudes and experiences of breastfeeding women infected with COVID-19. Integration of quantitative and qualitative data was achieved through the use of a convergent parallel mixed methods design. The results obtained supported and improved each other. The use of data triangulation in this study has contributed to a deeper understanding of the research problem at hand.

In this study, which examined breastfeeding attitudes and experiences of women diagnosed with COVID-19, it was found that women's employment status, education level, spouse's education level, family type, current economic situation, whether the pregnancy was planned or not, and mode of delivery did not affect breastfeeding attitudes, but the number of children did. In the study by Yahya et al. (2021), in which they examined the association between postpartum depression and breastfeeding attitudes, no association was found between maternal education level, maternal occupation, economic status, mode of delivery, and order of child birth and breastfeeding attitudes. The current literature review partially supports this research finding. In this study, breastfeeding attitudes were higher among those with only one child than those with three or more children. This could be because women's domestic responsibilities increase with the number of children and they are unable to devote enough time to breastfeeding their babies because they do not receive support to cope with the increasing responsibilities. Another finding of this study was that more than half of the mothers could not get

support for infant care. The findings of decreasing breastfeeding attitudes and low breastfeeding attitudes of those who cannot get help with infant care support each other as the number of children increases. In this context, it is suspected that the high number of children among women may cause them to tyre even faster due to the stress COVID-19. Consequently, it can be said that women's inability to devote much time to breastfeeding because they are tired and have to work affects their attitude towards breastfeeding. For this reason, sharing domestic responsibilities between spouses can help women devote more time to breastfeeding.

The sex of the baby, source of breastfeeding instruction, the status of help with infant care, source of help, and frequency of daily breastfeeding before and after the disease did not affect breastfeeding attitudes. In addition, the baby's age, the mother's breastfeeding instruction and the baby's nutritional status were found to influence breastfeeding attitude. The finding of this study that breastfeeding initiation improves breastfeeding attitudes of women confirms the finding found in the literature that breastfeeding initiation and counselling significantly increases breast milk intake (Imdad et al., 2011). Another finding of this study, the moderate level of breastfeeding attitudes, is similar to the findings in the literature (Yahya et al., 2021).

According to the interview findings, women expressed a strong fear of transmitting the disease to their babies. This conclusion supports previous research showing that COVID-19 infected women are afraid of infecting those around them, especially their babies (Rhodes et al., 2020; Aşcı et al., 2022; Kumari et al., 2020). Women's extreme anxiety during the disease may persist long after the onset. Therefore, screening can be used to determine or treat the women's current mental health status.

Based on information received from sources such as health workers, television and social media, women believe that COVID-19 has little impact on babies. Social media and television were found to have a great impact on reinforcing their positive attitudes towards breastfeeding. According to the literature, television and social media play a role in mothers' positive attitudes towards breastfeeding (Aşcı et al., 2022). However, obtaining reliable information from these sources is not always possible. Midwives and other healthcare providers can help avoid this by providing accurate information through these channels.

It was noted that the women have only brief contact with their babies for fear of infection, and this situation worries them. The women stated that they try not to infect their babies by having as little contact with them as possible. When we compare the results of the women before and after the disease, we find that the number of daily breastfeeding meals decreases. In this case, it shows that they are trying to prevent possible infection by minimising contact. Some sources in the

literature recommend the separation of mother and child because the consequences of contact between mother and child at the beginning of the pandemic are not known (Bartick, 2020). However, in the current literature, key communities such as WHO, UNICEF, RCOG have stated that they encourage breastfeeding through precautionary measures. They also support skin-to-skin contact as much as possible, especially after birth, to help babies adjust to the outside world (WHO, 2020b; WHO, 2022; ACOG, 2020; UNICEF, 2022; RCOG, 2022). Skin-to-skin contact is an important component of breastfeeding continuity. In this study, it was observed that women expressed a strong willingness and made dedicated efforts to breastfeed their babies, influenced by information they received from healthcare professionals, television programs, and social media. However, due to their concerns about potentially infecting their infants, they still imposed restrictions on physical contact. To prevent this situation, regular online or telephone conversations with women at specific intervals could be beneficial in providing support and guidance.

Upon learning that their COVID-19 test results were positive, women in the study initially expressed reluctance to breastfeed due to their fear of infecting their infants. However, influenced by the information they received through various channels, they eventually resumed breastfeeding. Interestingly, it was found that they extended the duration of breastfeeding despite their initial concerns. While almost half of the women breastfed their babies 9-14 times a day before they got sick, it was observed that this rate dropped very sharply when they got sick. Although women know that breastfeeding is healthier if they take the necessary precautions, they have been shown to reduce the frequency of breastfeeding for fear of infecting their babies. Repeated training can reduce the fear of infecting their babies and increase the frequency of breastfeeding.

It was observed that over half of the women did not receive support during this process, while those who received support were mainly assisted by their mother, mother-in-law, or spouse. It was found that women who received support in childcare displayed higher breastfeeding attitudes compared to those who did not receive support, particularly when the support came from their mothers. The impact of the support received by women on their breastfeeding attitudes can be highlighted. However, despite receiving support, women expressed difficulties in coping with the situation. This may be attributed to the fatigue caused by symptoms such as weakness, which made it challenging for them to maintain their daily routines alongside the caregiving responsibilities.

In the research conducted by Brown and Shenker on breastfeeding experiences during COVID-19, it was revealed that participants expressed a need for both breastfeeding support and emotional support. The study highlighted that without such support, everything became more challenging for the participants (Brown & Shenker, 2021). Besides, it was also found in this study that the support received was insufficient.

Limitations of the Study: The study sample consists of breastfeeding women diagnosed at COVID-19 and the difficulty in reaching women in this group is a limitation of the study. Due to this difficulty, the inability to reach the desired number of participants in terms of quantitative data can be considered a limitation of the study. Another limitation of the study is the online collection of data.

CONCLUSION AND SUGGESTIONS

It has been shown that women's attitudes towards breastfeeding are moderate, that they are afraid of breastfeeding and that the support they receive is inadequate. Supporting mothers in this process may help to reduce the impact of the disease on breastfeeding. It is possible to increase women's breastfeeding frequency by ensuring that they have access to reliable information. In this context, midwives or other health care providers can provide information to infected women via the Internet or by telephone. The results of this study, both during the pandemic COVID-19 and possible other pandemics, by highlighting the potential needs of women, can serve as inspiration to states, institutions and health professionals on how to manage this process.

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Conflicts of Interest

The authors have not conflict of interest to declare.

Authorship Contribution Statement

Design of study: SÖA (%50), SEA(%50)

Data Acquisition: EV (%100)

Data Analysis: SÖA (%40), SEA (%20), EV (%40)

Writing Up: SÖA (%40), EV (%30), SEA(%30)

Submission and Revision: SÖA (%100)

REFERENCES

ACOG updates on novel Coronavirus Disease 2019 (covid-19). ACOG. (2020). Retrieved February 17, 2023, from https://www.acog.org/news/news-articles/2020/03/acog-updates-on-novel-coronavirus-disease-2019

Aşcı, Ö., Demirgöz Bal, M., & Ergin, A. (2021). The breastfeeding experiences of covid -19- positive women: A qualitative study in Turkey. Japan Journal of Nursing Science, 19(1). https://doi.org/10.1111/jjns.12453

Arslan Özkan, H. (2015). Emzirme Tutumunu Değerlendirme Ölçeği. *Kadın Sağlığı Hemşireliği Dergisi*, 2(1), 53-58

Bartick, M. (2020, March 31). Covid-19: Separating infected mothers from newborns: Weighing the risks and benefits. COVID-19: Separating Infected Mothers from Newborns: Weighing the Risks and Benefits | HMS Postgraduate Education. Retrieved February 17, 2023, from https://postgraduateeducation.hms.harvard.edu/trends-medicine/covid-19-separating-infected-mothers-newborns-weighing-risks-benefits

Brown, A. & Shenker, N. (2020). Experiences of breastfeeding during COVID-19: Lessons for future practical and emotional support. Maternal & Child Nutrition, 17(1). https://doi.org/10.1111/mcn.13088

Centers for Disease Control and Prevention. (2021, March 25). Coronavirus disease (covid-19) and breastfeeding. Centers for Disease Control and Prevention. Retrieved February 17, 2023, from https://www.cdc.gov/breastfeeding/breastfeeding-special-circumstances/maternal-or-infant-illnesses/covid-19-and-breastfeeding.html

Ceulemans, M., Verbakel, J. Y., Van Calsteren, K., Eerdekens, A., Allegaert, K., & Foulon, V. (2020a). 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. https://doi.org/10.3390/ijerph17186766

Ceulemans, M., Hompes, T., & Foulon, V. (2020b). Mental health status of pregnant and breastfeeding women during the COVID-19 pandemic: A call for action. International Journal of Gynecology & Obstetrics, 151(1), 146–147. https://doi.org/10.1002/ijgo.13295

Chen, H., Guo, J., Wang, C., Luo, F., Yu, X., Zhang, W., Li, J., Zhao, D., Xu, D., Gong, Q., Liao, J., Yang, H., Hou, W., & Zhang, Y. (2020). Clinical characteristics and intrauterine vertical transmission potential of covid-19 infection in nine pregnant women: A retrospective review of medical records. The Lancet, 395(10226), 809–815. https://doi.org/10.1016/s0140-6736(20)30360-3

RCOG. (2022). Retrieved February 17, 2023, from https://www.rcog.org.uk/guidance/coronavirus-covid-19-pregnancy-and-women-s-health/coronavirus-covid-19-infection-in-pregnancy/

Creswell, J. W. (2001). Research Design Qualitative & Quantitative Approaches. Sage Publications.

Creswell, J. W. (2015). A concise introduction to mixed methods research. SAGE.

Creswell, J. W., & L., P. C. V. (2018). Designing and conducting mixed methods research. SAGE.

Hull, N., Kam, R. L., & Gribble, K. D. (2020). Providing breastfeeding support during the COVID-19 pandemic: Concerns of mothers who contacted the Australian Breastfeeding Association. https://doi.org/10.1101/2020.07.18.20152256

Imdad, A., Yakoob, M. Y., & Bhutta, Z. A. (2011). Effect of breastfeeding promotion interventions on breastfeeding rates, with special focus on developing countries. BMC Public Health, 11(S3). https://doi.org/10.1186/1471-2458-11-s3-s24

Kumar, B., Kumar, S., Rathore, P., Shweta, Krishnapriya, V., Haokip, N., Thankachan, A., & Bhatnagar, S. (2020). Why I can't breastfeed my new-born baby? psychosocial dilemma of a COVID-positive post-LSCS mother. Indian Journal of Palliative Care, 26(5), 150. https://doi.org/10.4103/ijpc.ijpc_157_20

Kumari, A., Ranjan, P., Sharma, K. A., Sahu, A., Bharti, J., Zangmo, R., & Bhatla, N. (2020). Impact of covid-19 on Psychosocial Functioning of peripartum women: A qualitative study comprising focus group discussions and in-depth interviews. International Journal of Gynecology & Obstetrics, 152(3), 321–327. https://doi.org/10.1002/ijgo.13524

Martins-Filho, P. R., Santos, V. S., & Santos, H. P. (2020). To breastfeed or not to breastfeed? lack of evidence on the presence of SARS-COV-2 in breastmilk of pregnant women with covid-19. Revista Panamericana De Salud Pública, 44, 1. https://doi.org/10.26633/rpsp.2020.59

Oncel, M. Y., Akın, I. M., Kanburoglu, M. K., Tayman, C., Coskun, S., Narter, F., Er, I., Oncan, T. G., Memisoglu, A., Cetinkaya, M., Oguz, D., Erdeve, O., Koc, E., Derme, T., Şahin, D., Güzel, B., Tekin, A. B., Akın, Y., Kale, A., ... Üstün, H. (2020). A multicenter study on epidemiological and clinical characteristics of 125 newborns born to women infected with covid-19 by Turkish Neonatal Society. European Journal of Pediatrics, 180(3), 733–742. https://doi.org/10.1007/s00431-020-03767-5

Rhodes, A., Kheireddine, S., & Smith, A. D. (2020). Experiences, attitudes, and needs of users of a pregnancy and parenting app (Baby Buddy) during the covid-19 pandemic: Mixed Methods Study. JMIR MHealth and UHealth, 8(12). https://doi.org/10.2196/23157

Snyder, K., & Worlton, G. (2021). Social support during COVID-19: Perspectives of Breastfeeding mothers. Breastfeeding Medicine, 16(1), 39–45. https://doi.org/10.1089/bfm.2020.0200

UNICEF UK baby friendly initiative. (2020). Retrieved February 17, 2023, from https://www.unicef.org.uk/babyfriendly/wp-content/uploads/sites/2/2020/04/Unicef-UK-Baby-Friendly-Initiative-statement-on-infant-feeding-on-neonatal-units-during-the-Covid-19-outbreak.pdf

UNICEF. (2022). Coronavirus disease (covid-19): What parents should know. UNICEF Eastern Caribbean. Retrieved February 17, 2023, from https://www.unicef.org/easterncaribbean/coronavirus-disease-covid-19-what-parents-should-know

WHO. (2004). Guiding principles for feeding infants and young children during emergencies. World Health Organization. Retrieved February 17, 2023, from https://www.who.int/publications-detail-redirect/9241546069

WHO. (2020a). Home care for patients with suspected or confirmed COVID-19 and management of their contacts. World Health Organization. Retrieved February 17, 2023, from https://www.who.int/publications/i/item/home-care-for-patients-with-suspected-novel-coronavirus-(ncov)-infection-presenting-with-mild-symptoms-and-management-of-contacts

WHO. (2020b). Clinical management of severe acute respiratory infection (SARI) when covid-19 disease is suspected: Interim guidance, 13 March 2020. World Health Organization. Retrieved February 17, 2023, from https://apps.who.int/iris/handle/10665/331446

WHO. (2022). Implementation guidance: Protecting, promoting, and supporting breastfeeding in facilities providing maternity and newborn services: The revised baby-friendly hospital initiative 2018. World Health Organization. Retrieved February 17, 2023, from https://www.who.int/publications-detail-redirect/9789241513807

Yahya, N. F., Teng, N. I., Shafiee, N., & Juliana, N. (2021). Association between breastfeeding attitudes and postpartum depression among mothers with premature infants during COVID-19 pandemic. International Journal of Environmental Research and Public Health, 18(20), 10915. https://doi.org/10.3390/ijerph182010915

Yu, Y., Xu, J., Li, Y., Hu, Y., & Li, B. (2020). Breast milk-fed infant of covid-19 pneumonia mother: A case report. Research Square https://doi.org/10.21203/rs.3.rs-20792/v1