Iranian Women's Experiences of Breastfeeding Support during the COVID-19 Pandemic: A Qualitative Study

Abstract

Background: The impact of the coronavirus disease 2019 (COVID-19) pandemic on health systems worldwide has been associated with less attention to maternal support in breastfeeding. The objective of this study was to explore the experiences of breastfeeding mothers, during the COVID-19 pandemic, and the impact of the pandemic on breastfeeding initiation and maintenance. Materials and Methods: A qualitative, descriptive study was conducted by means of in-depth semi-structured interviews. The study participants included 28 mothers who had children aged 0 to 12 months, lived in Guilan Province, Iran, and had breastfed their children at least once after March 2021. Conventional content analysis was performed simultaneously with data collection. Results: Data analysis led to the extraction of three main categories and nine subcategories: in the shadow of peace (receiving correct information from reliable sources, observing health and quarantine principles, and enjoying the awareness of not having COVID-19 [both the mother and the infant]), under the stress (information poverty, invalid and stressful information, and stressful association of underlying diseases), and in the delusion of exposure (refusal to breastfeed, and non-compliance with recommendations). Conclusions: Mothers' breastfeeding experiences during the COVID-19 pandemic indicate factors such as receiving or not receiving breastfeeding support, quarantine and the resulting stress, and exposure to conflicting information. Mothers felt that their experience with breastfeeding during the pandemic encouraged them to continue breastfeeding, but it is important to support breastfeeding mothers. Monitoring and supporting vulnerable groups such as breastfeeding mothers, for mental health problems during the COVID-19 pandemic, should be considered during the planning phase.

Keywords: Breastfeeding, COVID-19, experience, mother, qualitative study

Introduction

The accepted scientific recommendation is to breastfeed infants up to 6 months of age alone and to continue it up to 2 years of age with complementary feeding.^[1] While global recommendations are based on increasing exclusive breastfeeding, the rate of exclusive breastfeeding in Iran is lower than global recommendations.^[2] Respiratory infection from coronavirus disease 2019 (COVID-19) is a deadly and spreading disease that can cause severe respiratory disease.^[3] Pandemic emergencies are considered by the United Nations Children's Fund (UNICEF) and the World Health Organization (WHO) as extremely difficult conditions for feeding vulnerable groups, especially children and infants.^[4] During a pandemic, breastfeeding recommendation should be followed seriously because breastfeeding actively and passively helps

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to fight infections in the infant and develop the infant's immune system to fight existing infections.^[5] Breastfeeding mothers will also be more healthy as breastfeeding reduces the risk of inflammation, improves sleep, and controls stress.^[6]

Most of the scientific research studies initially published were focused on assessing the effects of COVID-19 on the general population and reported insufficient data on the impact on specific populations, such as pregnant or lactating women.^[7] However, regarding the transmission of the COVID-19 infection to the infant, it has been shown that the infection is not found in the breastmilk of infected mothers.[8,9] Guidelines for COVID-19-positive mothers and their infants have changed dramatically since the start of the pandemic in Iran.^[10] It is also

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advised that the infected mother be isolated from her infant after delivery, and breastfeeding not be practiced for 14 days.^[11] However, a systematic review showed no relationship between infant feeding (breastfeeding) or proximity to the mother and cuddling of the infant, and neonatal incidence.^[12] Consequently, the pandemic caused by COVID-19 has affected reproductive and perinatal health both directly through the infection itself and indirectly as a consequence of changes in medical care and mothers' being wrongly advised not to breastfeed their infants if they had any suspicious symptoms. Moreover, in many countries, the infant was even routinely separated from his or her asymptomatic mother.^[13]

The challenges arising for breastfeeding mothers during pandemics are the basis for developing service guidelines. For affected or suspected mothers, the mother-infant separation is associated with psychological effects on the mother, leading to secretion and milking challenges, which in turn negatively affect the amount of milk secretion.^[14] Under such circumstances, health personnel need to provide greater support to mothers in lactation; however, personnel face difficulties in helping these mothers due to fear of infection as well as the protective and time-consuming measures taken to be with these mothers. The infantmother separation and formula feeding can cause problems for the infant and the mother in the process of converting formula feeding to breastfeeding.^[7] This separation can also occur in non-affected mothers due to the fear of spreading of the disease.^[15]

However, due to the emergence of the disease, physical health usually gains greater attention than mental health based on the specific needs and concerns. Thus, most studies have focused on the therapeutic aspects of the disease, and less attention has been paid to the deep understanding of the needs of individuals to develop supportive guidelines and protocols. Breastfeeding studies have shown that paying attention to the experiences of breastfeeding mothers can help providers of breastfeeding counseling and support to provide their services based on these experiences, especially during the first 6 months of breastfeeding, when exclusive breastfeeding is considered and mothers face more problems during this period. These experiences should be considered in breastfeeding counseling and in the development of breastfeeding support programs under similar situations.^[16] The aim of this qualitative study was to find solutions to meeting these needs during this period by exploring the experiences and needs of breastfeeding mothers during the COVID-19 pandemic, and the impact of the pandemic on breastfeeding initiation and maintenance.

Materials and Methods

A qualitative descriptive study was conducted by means of in-depth, semi-structured interviews with open-ended questions. In this regard, the researchers introduced themselves and provided a brief explanation of the objectives of the study, and then, invited the individual to participate in the study. The interview guide included questions such as "Please tell us about your experience during the COVID-19 pandemic" and "Tell us about your experience while breastfeeding during the COVID-19 pandemic," and then, follow-up questions were used to obtain more details and increase the depth of the interview. The interviews were performed until data saturation was reached.

The participants in this study lived in Guilan Province, which is located in northern Iran, and its biotope is forests and woodland near the Caspian Sea. The ethnic group of this province is Gilak.^[17]

The study participants included mothers who had children aged 0 to 12 months, lived in Guilan Province, and had breastfed their children at least once after March 2021 (at the same time as the pandemic started in Iran). The study was conducted between March 2021 and July 2021. The participants were recruited by midwives from the primary care centers of Guilan University of Medical Sciences, Iran. Women were mainly approached in antenatal clinics by their midwives. Mothers were selected using the purposive sampling method.

The study inclusion criteria included being over 18 years of age, living in Guilan, having undergone delivery before or after the pandemic declaration, with successful or interrupted breastfeeding during this period, and not being prohibited from breastfeeding their infants by a pediatrician for medical reasons (like contracting other infectious diseases), a positive COVID-19 diagnosis (polymerase chain reaction (PCR) test or clinical symptoms) and delivery during the pandemic, with maternal or artificial lactation, being able to communicate and understand the study requirements, and accepting and signing the informed consent. The study exclusion criterion was reluctance to continue participating in the study. The research team used Lincoln and Guba's criteria to establish the trustworthiness of the study. These authors explain that trustworthiness in a study is determined by credibility, dependability, reflexivity, transferability, and confirmability.^[18] For this purpose, interviews were conducted by the main researcher of the study in hospitals or primary care centers, while observing prevention protocols, and were recorded and transcribed in the same language by the first author. Subsequently, the transcribed interviews were randomly sent to some participants (credibility and dependability) to obtain data feedback and to ensure that the meaning expressed during the interviews was maintained. Finally, during the process of data analysis, all the information was triangulated by the study researchers to enhance validity and confirmability.

First, the research team became familiar with the data and performed the coding. The interviews were independently analyzed by the two researchers. The interviews, the extracted codes, and the subcategories were shared with some qualitative research experts, and their opinions were obtained.^[19] According to the research question, the qualitative content analysis method was used. This approach is a good method for the analysis of sensitive and multidimensional phenomena and an important method for the provision of evidence for a phenomenon.^[20] Additionally, regular analytical sessions were held with the research team to generate, review, and name themes. The two researchers held regular meetings during the rest of the analysis process.

Data collection took about 5 months. Simultaneous to data collection, the data analysis was also conducted using qualitative content analysis. The data analysis was performed according to the steps proposed by Lundman and Graneheim: 1. The interviews that were analyzed and coded were considered as the analysis units. 2. Then, words, sentences, or paragraphs were considered as meaning units. Meaning units are a group of words and sentences that have related content. 3. These units were summarized according to their content and juxtaposed. 4. The meaning units reached the conceptualization level and were named using codes. 5. Codes were compared in terms of their similarities and differences, and were divided into more abstract categories by a specified label. 6. After comparing categories with each other and having a detailed deep reflection, the hidden content of the data was introduced as the study themes.^[19]

This study has been conducted in strict compliance with the ethical principles of the Declaration of Helsinki (1964), including the informed consent request for participation.

Ethical considerations

This study is the result of cooperation with the Center for Research and Social Determinants of Health; it is a research project approved by the Vice Chancellor for Research of Guilan University of Medical Sciences (IR. GUMS.REC.1400.008). The participation of mothers in the study and the signing of the participation form were voluntary. Mothers were informed that their participation was voluntary, they could withdraw from the study at any time, and they were also assured that their responses were confidential.

Results

A total of 32 women who met the inclusion criteria were recruited. A total of 28 interviews were finally conducted until reaching theoretical data saturation. Among the participants, eight reported a history of being infected with COVID-19. The interviews approximately lasted between 30 and 45 minutes. Participants with an age range of 18–41 years and 1–4 children participated in the study. All participants had Iranian nationality, were married, had high school/university education, and were mostly unemployed [Table 1].

From the statements of the interviewees, three main categories and nine subcategories were extracted. The main category of "in the shadow of peace" included the subcategories of receiving correct information from reliable sources, observing health principles and quarantine procedures, and enjoying the awareness of not having COVID-19 (both the mother and the infant). The main category of "under the stress" included the subcategories of information poverty, stressful invalid information, and stressful association of underlying diseases. The main category of "in the delusion of exposure" included the subcategories of refusal to breastfeed, and non-compliance with recommendations [Table 2].

In the shadow of peace

Participants' breastfeeding experiences during the COVID-19 pandemic showed a sense of peace after receiving accurate information from reliable sources, adherence to personal hygiene and quarantine at home, and enjoying awareness and understanding of their own health and that of the infant.

Many participants talked of the need to obtain accurate and up-to-date information to find a sense of peace by following health protocols, not accepting guests at home to adhere to quarantine and social distancing, and finding more peace after being discharged from the hospital. Some also expressed that they seem to be under the shadow of peace after becoming aware of their own health and that of their infant.

Participant 6: "Every day I tried to get the latest coronavirus news and information from reputable sources and to be aware of the latest symptoms of the disease in people, especially breastfeeding mothers, so that I could ensure management of the disease and feel calm."

Participant 10: "When I had reliable information, I shared it with other friends and pregnant mothers I knew, because I was confident that despite the different information available, it could be a good help to others, and by doing so, 'I felt very satisfied'."

Some participants expressed their sense of security and peace by observing personal hygiene as closely as possible, having no in-person communication with friends and family, and observing social distancing and quarantine.

Participant 18: "From the beginning of my pregnancy until I was discharged from the hospital, I told all my family and friends that I would not accept them at home. In fact, I wanted to ensure that I observed distancing from people to keep myself and my infant healthy. This distance made me calm."

Participants expressed their sense of peace after finding out that they (herself and the infant) do not have COVID-19 following examinations or testing.

Table 1: Sociodemographic profile and data related to breastfeeding of mothers								
Participant	Age of the	Marital	Maternal educational	Occupation	Parity	Previous	Infant feeding	Age of the
	(vears)	status	icvei			experience	(In st o months)	(months)
1	19	Married	High school	Unemployed	1	No	Exclusively breastfeeding	4
2	25	Married	Pre-high school education	Unemployed	1	No	Exclusively breastfeeding	1
3	18	Married	High school	Unemployed	1	No	Nonexclusively breastfeeding	6
4	37	Married	College degree	Employed	2	Yes	Exclusively breastfeeding	11
5	24	Married	College degree	Unemployed	2	No	Nonexclusively breastfeeding	9
6	40	Married	High school	Unemployed	4	Yes	Nonexclusively breastfeeding	12
7	23	Married	College degree	Employed	2	Yes	Nonexclusively breastfeeding	3
8	32	Married	College degree	Unemployed	3	Yes	Exclusively breastfeeding	4
9	31	Married	High school	Unemployed	2	Yes	Nonexclusively breastfeeding	7
10	26	Married	High school	Unemployed	1	No	Exclusively breastfeeding	6
11	24	Married	High school	Employed	2	No	Nonexclusively breastfeeding	3
12	22	Unmarried	Pre-high school education	Unemployed	2	Yes	Nonexclusively breastfeeding	7
13	26	Married	College degree	Employed	4	Yes	Nonexclusively breastfeeding	9
14	41	Married	High school	Unemployed	2	Yes	Nonexclusively breastfeeding	5
15	35	Married	College degree	Employed	1	No	Exclusively breastfeeding	7
16	29	Unmarried	High school	Unemployed	1	No	Exclusively breastfeeding	11
17	28	Married	College degree	Employed	3	Yes	Nonexclusively breastfeeding	8
18	30	Married	College degree	Unemployed	2	Yes	Exclusively breastfeeding	6
19	34	Married	High school	Unemployed	1	No	Exclusively breastfeeding	4
20	21	Married	High school	Employed	1	No	Nonexclusively breastfeeding	7
21	36	Married	High school	Employed	2	Yes	Nonexclusively breastfeeding	12
22	40	Married	College degree	Unemployed	4	Yes	Exclusively breastfeeding	5
23	41	Married	High school	Employed	2	Yes	Nonexclusively breastfeeding	6
24	25	Married	High school	Employed	1	No	Nonexclusively breastfeeding	3
25	27	Married	College degree	Unemployed	1	No	Exclusively breastfeeding	6
26	21	Married	High school	Employed	2	Yes	Exclusively breastfeeding	7
27	19	Married	High school	Employed	1	No	Exclusively breastfeeding	8
28	40	Married	Pre-high school education	Unemployed	1	No	Nonexclusively breastfeeding	2

Table 2: Main categories, subcategories, and codes extracted from the experiences of breastfeeding mothers

Main categories	Subcategories	Code				
In the shadow of	Receiving correct information from reliable	Receiving information from hospital staff				
peace	sources	Knowledge of standard guidelines				
		Receiving information from your physician				
	Observing health and quarantine principles	Regular handwashing				
		Using a mask				
		Not accepting guests at home				
	Enjoying the awareness of not having	Enjoyable awareness of health after testing				
	COVID-19 (both the mother and the infant)	Enjoyable awareness of your health after examinations				
Under the stress	Information poverty	Insufficient information in the hospital				
		Lack of attention to the need of inpatient mothers for accurate information				
	Invalid and stressful information	Receive invalid information from friends				
	Stressful association of underlying diseases	Existence of invalid information in social networks				
In the delusion	Refusal to breastfeed	Stop breastfeeding after receiving contradictory information				
of exposure	Non-compliance with recommendations	Turning to powdered milk instead of breastmilk				
	*	Lack of strict observance of health protocols				
		Not breastfeeding for a long time for no reason				

Participant 2: "I always had a lot of stress about the possibility of getting infected and transmitting the disease to the infant through breastfeeding, and when I found out about my and my baby's health from the test results, I continued breastfeeding with peace of mind."

Under the stress

Participants described high breastfeeding stress during the COVID-19 pandemic, which was manifested by concepts such as lack of adequate and accurate information, receiving unreliable stress-exacerbating information, and sometimes, a comorbid underlying disease.

Participant 30: "In my opinion, some of the reported stress and anxiety could be due to lack of information, lack of knowledge about how to communicate with the infant, and breastfeeding-related issues during the COVID-19 pandemic."

Participant 14: "Getting infected with COVID-19 disease at the same time and not having enough information made breastfeeding very stressful for me. Unfortunately, most of the time, we had a shortage of staff and not enough time to train in this area."

Some participants also showed that they experienced high stress as a result of receiving incorrect and unreliable information that they sometimes received from ordinary people or social networks.

Participant 20: "Sometimes, I would get information about breastfeeding among people with COVID-19 on social websites or networks, and there were many cases where reading false and unreliable news had no effect on me other than causing a lot of panic."

The incidence of some chronic diseases during pregnancy and breastfeeding, which sometimes led to frequent maternal admissions and mother–baby separation, was another stressful aspect for some mothers.

Participant 24: "I have diabetes and I had to be hospitalized several times during my pregnancy and after giving birth. This issue and being away from my child doubled my stress. I kept thinking: "How does my infant breastfeed? Who is in (physical) contact with him at home? This also affected my milk supply, and after I was discharged, I was no longer able to breastfeed my baby enough."

In the delusion of exposure

Another experience of breastfeeding mothers during the COVID-19 pandemic was the occurrence of unusual reactions. Participants reported their refusal to breastfeed their infants and comply with recommendations. Some participants expressed their frustration of being bombarding with some simultaneous true and false information that made them hesitant to accept the correct information and resort to unusual solutions.

Participant 28: "To a large extent, I was bombarded with information. Everyone gave me some information. One talked of the need for a decrease in the frequency of breastfeeding and contact with the infant, and vice versa. I have really run out of vigor and turned to formula, and in fact, I only breastfed my baby for the first few days and used formula the rest of the time despite having enough breastmilk."

Some mothers also cited contradictory news as a reason for their day-to-day confusion and, consequently, different reactions during breastfeeding. Participant 3: "I had been hearing for several days that breastfeeding during COVID-19 was good for the infant and boosted his/her immune system. I continued to breastfeed continuously at that time, but when I heard that if you have a symptom, you may be affected and should not approach the infant, or you may have been infected before and now it may be transmitted from your breastmilk, I stopped breastfeeding."

Participant 13: "After the delivery, which itself was associated with a bit of depression for me, hearing a lot of contradictory news made me banish them from thought and not pay much attention to the protocols."

Discussion

The results of this study showed that breastfeeding during the COVID-19 pandemic resulted in both positive and negative experiences for mothers. This was a pioneering study in Iran, as it shed light on the experiences related to breastfeeding during the extraordinary pandemic circumstances from a qualitative perspective. In this study, the experiences of breastfeeding mothers during the COVID-19 pandemic were explained in three main themes: in the shadow of peace, under the stress, and in the delusion of exposure.

Creating a shadow of peace, as a positive experience, was the result of components that could enhance attention to exclusive breastfeeding. When expressing this experience, mothers actually expressed their improvement in breastfeeding performance during the pandemic. Receiving correct information from sources was classified as a common experience in creating a positive feeling and placing mothers in the shadow of peace. The participating mothers stated that this information came from sources including hospital health personnel, physicians, and guidelines that were recommended to mothers. Receiving the correct information can reduce maternal anxiety and stress. A similar study showed that breastfeeding support groups were able to help reduce maternal stress and anxiety, and thus, reduce common pregnancy problems by providing breastfeeding counseling during this period.^[21] The results of another study also showed that the lack of provision of routine breastfeeding visits and the necessary support to health personnel during this period caused a negative breastfeeding experience and even breastfeeding cessation.[15]

Personal hygiene and quarantine at home was another common experience in providing a shadow of peace for mothers in this study. In fact, mothers achieved a positive breastfeeding experience by observing hygienic principles and adhering to quarantine. Consistent with this study, results of a study in the UK showed that mothers achieved a positive experience by adherence to home quarantine, which increased their focus on breastfeeding.^[15] In fact, these studies showed that guarantine led to more breastfeeding opportunities. However, in a study in Italy, mothers reported a reduction in breastfeeding frequency as a result of quarantine.^[22] This inconsistency in experiences seems to be justified by the reduction in receiving social support and routine breastfeeding visits during quarantine. A cross-sectional study in Iran showed that postpartum spouse support and having the intention of breastfeeding during the COVID-19 pandemic were positively associated with breastfeeding.^[23]

Enjoving awareness and understanding of their own health and that of the infant was also an experience that could create a positive experience of peace for mothers. In fact, mothers' assurance that they and their infant would not contract COVID-19 made breastfeeding a positive and pleasurable experience during this time. Reducing maternal anxiety following health assurance can be an important determinant of this experience. Moreover, mothers' breastfeeding performance is improved after creating positive experiences and the feeling of pleasure from breastfeeding in them, and this cycle leads to the improvement of mothers' mental condition. Effective breastfeeding can also improve the mental condition of mothers, and breastfeeding cessation is considered a factor in increasing maternal stress.^[24] In this regard, the study by Spatz and Froh showed that mothers who practiced breastfeeding more frequently during the COVID-19 pandemic had fewer symptoms of depression during this period.^[25] Consistent with the results of this study, in some other studies, the most important fear that caused stress for breastfeeding mothers was the fear of transmitting the infection to the infant through the breastmilk.^[21,26] Therefore, timely examinations and tests for mothers and infants, if they have symptoms, can play an important role in reassuring and reducing the stress of breastfeeding mothers.

Stress was a common experience of breastfeeding mothers in this study. Under the chariot of stress refers to the exposure of the mother to a stressful situation due to the COVID-19 pandemic. In addition to breastfeeding cessation due to fear of COVID-19, this category also includes information poverty, exposure to contradictory information, and comorbid underlying diseases. This result was obtained in a similar study where the most important concern and stress of breastfeeding mothers during the COVID-19 pandemic was fear of infection. Moreover, mothers who were more inclined toward breastfeeding and concerned about the importance of breastfeeding benefits during the pandemic had more breastfeeding-related stress.[21,27] The experience of pandemic stress could also be exacerbated by reduced maternal breastfeeding support during the COVID-19 pandemic, as confirmed in similar studies.[26,28] Reducing breastfeeding support and counseling programs in the face of the burden of the COVID-19 crisis could be an important determinant of breastfeeding cessation during this period. Previous studies have also associated the reduction or cessation of breastfeeding with changes in mental health and symptoms of anxiety, stress, and depression among breastfeeding mothers due to the COVID-19 pandemic.[21,27] The studies by Zanardo et al.^[29] and Burgess et al.^[30] compared the breastfeeding status of mothers before and during the pandemic period in Italy and the United States, respectively. They showed a significant reduction in breastfeeding continuity during the COVID-19 pandemic, which was mostly due to changes in the mental health status of mothers during the pandemic.^[29,30] Therefore, the stress of breastfeeding mothers during the pandemic seems to play a decisive role in their breastfeeding. However, a new study in Iran showed that stress management can improve breastfeeding.^[31]

Although the COVID-19 virus is highly contagious, exclusive breastfeeding is still recommended during the pandemic.^[32] Although most health recommendations are based on lack of separation of mother and child and breastfeeding continuity during the COVID-19 pandemic, these recommendations have not been adhered to in many cases, and mother-infant separation has increased maternal stress during breastfeeding.[33] Furthermore, motherinfant separation occurred more frequently in the case of underlying diseases in breastfeeding mothers during this period. This issue in this study caused a negative breastfeeding experience and stress for mothers. A similar study showed that mother-infant separation and the lack of breastfeeding during a pandemic caused the feeling of guilt, a sense of inadequacy, and anxiety in mothers.^[27] Mothers with chronic diseases experience challenges in managing their disease and breastfeeding at the same time, which has led to mother-infant separation.[34] In fact, maternal underlying diseases are a factor in breastfeeding cessation before 6 months of age, and mothers with these diseases should receive more breastfeeding support.[35] Therefore, the combination of these two factors can have a significant impact on increasing maternal stress and creating negative breastfeeding experiences, which affects exclusive breastfeeding and should be specifically considered by health personnel.

The results of this study also showed that the COVID-19 pandemic could change a mother's breastfeeding schedule. With regard to the in the delusion of exposure category, there was a category that indicated a change in the frequency and duration of breastfeeding or complete breastfeeding cessation in this study. The experience of refusing to breastfeed due to receiving contradictory information and turning to formula in this study was consistent with the results of other studies.^[30,36,37] In fact, mothers can be exposed to conflicting information about the possible transmission of COVID-19 disease from breastmilk by family members, friends, or the media, and it is considered an effective factor in breastfeeding cessation.^[15] This issue puts the infant at risk of nutritional problems and malnutrition, and leads to serious disease among infants.^[38,39]

Furthermore, non-compliance to health recommendations by mothers was another experience in this study that led to a change in the breastfeeding schedule of mothers during this period. In fact, this issue suggests the non-observance of health protocols and cessation of breastfeeding by mothers for no reason. Although the COVID-19 pandemic has caused mothers to have difficulty breastfeeding, there are asymptomatic mothers who have stopped breastfeeding for no apparent reason despite health recommendations. In Belgium, a study revealed that approximately 88% of breastfeeding cessation cases during the COVID-19 pandemic were asymptomatic (or with symptoms related to other diseases).^[36] Breastfeeding mothers always face common problems during breastfeeding, and the results of a study of mothers in Australia showed that breastfeeding problems during the COVID-19 pandemic period were similar to those before the pandemic.^[21] These common problems can be a trigger for early breastfeeding cessation.^[40] Therefore, effective continuation of breastfeeding counseling and support during this period can be an effective solution to these problems and continuing breastfeeding.

Due to the qualitative nature of interpretive research, the findings of this study are not generalizable. The limitation of our study is that it is a single-center study and could be affected by local policy. This study explains the experiences of breastfeeding mothers during the pandemic, but as it is a new emerging disease, most studies have focused on the therapeutic aspects of the disease and less attention has been paid to a deep understanding of people's needs for supportive guidelines and protocols. There has also been no detailed study on breastfeeding changes during the COVID-19 pandemic in Iran; thus, the comparison of the results of this study with similar studies was difficult.

Conclusion

Mothers' breastfeeding experiences during the COVID-19 pandemic were affected by factors such as receiving or not receiving breastfeeding support, quarantine and the subsequent stress, and exposure to conflicting information. Mothers felt that their experience with breastfeeding during the pandemic encouraged them to continue breastfeeding, but it is important to support breastfeeding mothers. The existence of contradictory and sometimes wrong information in this regard increases maternal stress, which in turn increases the problems of mothers during this period. Under such circumstances, monitoring and support of vulnerable groups such as breastfeeding mothers, for mental health problems during the COVID-19 pandemic, should be considered during the planning phase. Health sectors should consider maternal experiences and opinions regarding breastfeeding during the COVID-19 pandemic. Further studies with a planning approach based on the needs of breastfeeding mothers during this period are recommended.

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Conflicts of interest

Nothing to declare.

References

- 1. Thorley V. Assumptions and advice: Mothers and Queensland well-baby clinics. A review. Breastfeeding Rev 2014;22:23.
- Dalili H, Shariat M, Nayeri F, Emami Z, Sahebi R, Sahebi L. Duration of breastfeeding and maternal-related factors in Iran, systematic review and meta-analysis. J Pediatr Nurs 2020;54:e23-30.
- Rasmussen SA, Smulian JC, Lednicky JA, Wen TS, Jamieson DJ. Coronavirus disease 2019 (COVID-19) and pregnancy: What obstetricians need to know. Am J Obstet Gynecol 2020;222:415-26.
- World Health Organization. UNICEF 2003, Global strategy for infant and young child feeding. 2003. World Health Organization. Available from: https://www who int/nutrition/publications/ infantfeeding/9241562218/en.
- 5. Cacho NT, Lawrence RM. Innate immunity and breast milk. Front Immunol 2017;8:584. doi: 10.3389/fimmu. 2017.00584.
- Figueiredo B, Canário C, Field T. Breastfeeding is negatively affected by prenatal depression and reduces postpartum depression. Psychol Med 2014;44:927-36.
- Gribble K, Marinelli KA, Tomori C, Gross MS. Implications of the COVID-19 pandemic response for breastfeeding, maternal caregiving capacity and infant mental health. J Hum Lact 2020;36:591-603.
- Chen H, Guo J, Wang C, Luo F, Yu X, Zhang W, et al. Clinical characteristics and intrauterine vertical transmission potential of COVID-19 infection in nine pregnant women: A retrospective review of medical records. Lancet 2020;395:809-15.
- Dimopoulou D, Triantafyllidou P, Daskalaki A, Syridou G, Papaevangelou V. Breastfeeding during the novel coronavirus (COVID-19) pandemic: Guidelines and challenges. J Matern Fetal Neonatal Med 2022:1-7.
- Rahmanzade R, Rahmanzadeh R, Hashemian SM, Tabarsi P. Iran's approach to COVID-19: Evolving treatment protocols and ongoing clinical trials. Front Public Health 2020;8:551889. doi: 10.3389/fpubh. 2020.551889.
- 11. Puopolo K, Hudak M, Kimberlin D, Cummings J. American Academy of Pediatrics Committee on Fetus and Newborn

Section of Neonatal Perinatal Medicine and Committee on Infectious Disease. Initial guidance: Management of infants born to mothers with COVID-19. 2020. 2022.

- Walker KF, O'Donoghue K, Grace N, Dorling J, Comeau JL, Li W, *et al.* Maternal transmission of SARS-COV-2 to the neonate, and possible routes for such transmission: A systematic review and critical analysis. BJOG 2020;127:1324-36.
- Tomori C, Gribble K, Palmquist AE, Ververs MT, Gross MS. When separation is not the answer: Breastfeeding mothers and infants affected by COVID-19. Matern Child Nutr 2020;16:e13033. doi: 10.1111/mcn. 13033.
- 14. Yang Y, Brandon D, Lu H, Cong X. Breastfeeding experiences and perspectives on support among Chinese mothers separated from their hospitalized preterm infants: A qualitative study. Int Breastfeed J 2019;14:1-7. doi: 10.1186/s13006-019-0242-9.
- Brown A, Shenker N. Experiences of breastfeeding during COVID-19: Lessons for future practical and emotional support. Matern Child Nutr 2021;17:e13088. doi: 10.1111/ mcn. 13088.
- Renfrew MJ, Cheyne H, Craig J, Duff E, Dykes F, Hunter B, et al. Sustaining quality midwifery care in a pandemic and beyond. Midwifery 2020;88:102759. doi: 10.1016/j.midw. 2020.102759.
- Mansour-Ghanaei F, Joukar F, Naghipour MR, Sepanlou SG, Poustchi H, Mojtahedi K, *et al.* The PERSIAN Guilan cohort study (PGCS). Arch Iran Med 2019;22:39-45.
- Speziale HS, Streubert HJ, Carpenter DR. Qualitative Research in Nursing: Advancing the Humanistic Imperative. Lippincott Williams & Wilkins; 5th ed. Philadelphia, London, 2011.
- Sadeghi T, Kazemi M. Nursing student's viewpoints and experiences about clinical evaluation by 360 degree approach. J Qualitative Res Health Sci 2020;5:273-82.
- Taebi M, Abedi H, Abbaszadeh A, Kazemi M. Self-management resources following coronary artery bypass graft J Qual Res Health Sci 2015;4:50-61.
- Hull N, Kam RL, Gribble KD. Providing breastfeeding support during the COVID-19 pandemic: Concerns of mothers who contacted the Australian Breastfeeding Association. Breastfeeding Rev 2020;28:25-35.
- 22. Latorre G, Martinelli D, Guida P, Masi E, De Benedictis R, Maggio L. Impact of COVID-19 pandemic lockdown on exclusive breastfeeding in non-infected mothers. Int Breastfeed J 2021;16:1-7. doi: 10.1186/s13006-021-00382-4.
- Beheshti MAZ, Alimoradi Z, Bahrami N, Allen K-A, Lissack K. Predictors of breastfeeding self-efficacy during the covid-19 pandemic. J Neonatal Nurs 2022;28:349-55.
- 24. Ystrom E. Breastfeeding cessation and symptoms of anxiety and depression: A longitudinal cohort study. BMC Pregnancy Childbirth 2012;12:1-6.
- 25. Spatz DL, Froh EB. Birth and breastfeeding in the hospital setting during the COVID-19 pandemic. MCN Am J Matern Child Nurs 2021;46:30-5.
- Snyder K, Worlton G. Social support during COVID-19: Perspectives of breastfeeding mothers. Breastfeeding Med 2021;16:39-45.
- 27. Kumar S, Rathore P, Shweta VK, Haokip N, Thankachan A,

Bhatnagar S, *et al.* Why I can't breastfeed my new-born baby? Psychosocial dilemma of a COVID-positive post-LSCS mother. Indian J Palliat Care 2020;26(Suppl 1):S150-2.

- Vazquez-Vazquez A, Dib S, Rougeaux E, Wells JC, Fewtrell M. The impact of the Covid-19 lockdown on the experiences and feeding practices of new mothers in the UK: Preliminary data from the COVID-19 New Mum Study. Appetite 2021;156:104985. doi: 10.1016/j.appet. 2020.104985.
- Zanardo V, Tortora D, Guerrini P, Garani G, Severino L, Soldera G, *et al.* Infant feeding initiation practices in the context of COVID-19 lockdown. Early Hum Dev 2021;152:105286. doi: 10.1016/j.earlhumdev. 2020.105286.
- Burgess A, Breman RB, Bradley D, Dada S, Burcher P. Pregnant women's reports of the impact of COVID-19 on pregnancy, prenatal care, and infant feeding plans. MCN Am J Matern Child Nurs 2021;46:21-9.
- 31. Shamsdanesh S, Nourizadeh R, Hakimi S, Ranjbar F, Mehrabi E. The effect of counseling with stress management approach on postpartum anxiety and distress and breastfeeding self-efficacy during COVID-19 pandemic: A ramdomized controlled trial. BMC Pregnancy Childbirth 2023;23:1-9. doi: 10.1186/ s12884-023-05356-4.
- Vassilopoulou E, Feketea GM, Koumbi LJ, Mesiari C, Berghea CE, Konstantinou GN. Breastfeeding and COVID-19: From nutrition to immunity. Front Immunol 2021;12:946.
- 33. Popofsky S, Noor A, Leavens-Maurer J, Quintos-Alagheband ML, Mock A, Vinci A, *et al.* Impact of maternal severe acute respiratory syndrome coronavirus 2 detection on breastfeeding due to infant separation at birth. J Pediatr 2020;226:64-70.
- Scime NV, Lee S, Jain M, Metcalfe A, Chaput KH. A scoping review of breastfeeding in women with chronic diseases. Breastfeeding Med 2021;16:851-62.
- Scime NV, Patten SB, Tough SC, Chaput KH. Maternal chronic disease and breastfeeding outcomes: A Canadian population-based study. J Matern Fetal Neonatal Med 2022;35:1148-55.
- 36. Ceulemans M, Verbakel JY, Van Calsteren K, Eerdekens A, Allegaert K, Foulon V. 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. Int J Environ Res Public Health 2020;17:6766. doi: 10.3390/ ijerph 17186766.
- 37. Oncel MY, Akın IM, Kanburoglu MK, Tayman C, Coskun S, Narter F, *et al.* A multicenter study on epidemiological and clinical characteristics of 125 newborns born to women infected with COVID-19 by Turkish Neonatal Society. Eur J Pediatr 2021;180:733-42.
- Nigatu D, Azage M, Motbainor A. Effect of exclusive breastfeeding cessation time on childhood morbidity and adverse nutritional outcomes in Ethiopia: Analysis of the demographic and health surveys. PloS One 2019;14:e0223379. doi: 10.1371/ journal.pone. 0223379.
- Scherbaum V, Srour ML. The role of breastfeeding in the prevention of childhood malnutrition. Hidden Hunger 2016;115:82-97.
- Morrison AH, Gentry R, Anderson J. Mothers' reasons for early breastfeeding cessation. MCN Am J Matern Child Nurs 2019;44:325-30.