



ORIGINAL ARTICLE

## Experiences of Mothers with Infants Admitted to Neonatal Intensive Care During the COVID-19 Pandemic: A Qualitative Study

### COVID-19 Pandemisinde Bebeği Yenidoğan Yoğun Bakımda Yatan Annelerin Deneyimleri: Nitel Bir Çalışma

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#### Abstract

**Objective:** The aim of this study was to reveal the experiences, opinions, and suggestions of mothers with infants admitted to the neonatal intensive care unit (NICU) during the period of the Coronavirus disease-2019 (COVID-19) pandemic, as parental participation in the NICU.

**Method:** The study's data were obtained through semi-structured interview form and the sample of this qualitative study consisted of 11 volunteer mothers with infants admitted to the NICU between May 4 and June 24, 2021. Face-to-face, individual, in-depth interviews were conducted with the mothers. The data were analyzed using the thematic analysis method.

**Results:** Two themes and six sub-themes were obtained. The two main themes were: (1) Difficulties of being a mother during the pandemic, and (2) difficulties experienced during mothers' participation in infant care during the pandemic. Mothers stated that they were unable to experience motherhood; that they experienced constant fear, anxiety and worry; and that they did not receive adequate support from their families and health professionals. They reported that they could only visit their infants when close to the discharge date, could not participate in the care process, did not receive adequate information from healthcare professionals, and did not feel fully prepared to care for their infants after leaving hospital.

**Conclusion:** This study showed that due to visitation restrictions, NICU mothers struggled to fulfill their maternal role, demonstrating the inadequacy of family-centered care practices during the-COVID-19 pandemic. During crisis periods such as pandemics, strategies must be employed to develop infant-mother attachment and increase mothers' participation in the care of their infants.

**Keywords:** COVID-19, experiences of mothers, family-centered care, neonatal intensive care unit, visitor restrictions

#### Öz

**Amaç:** Bu çalışmanın amacı, Koronavirüs hastalığı-2019 (COVID-19) pandemisi döneminde yenidoğan yoğun bakım ünitesinde (YYBÜ) ebeveyn ziyaretinin kısıtlanmış olması nedeniyle YYBÜ'ye başvuran bebeği olan annelerin deneyimlerini, görüşlerini ve önerilerini ortaya çıkarmaktır.

**Yöntem:** Çalışmanın verileri yarı yapılandırılmış görüşme formu aracılığıyla elde edilmiştir. Bu nitel çalışmanın örneklemi, 4 Mayıs-24 Haziran 2021 tarihleri arasında YYBÜ'ye kabul edilen bebekleri olan 11 gönüllü anneden oluşmaktadır. Annelerle yüz yüze, bireysel, derinlemesine görüşmeler yapılmıştır. Veriler tematik analiz yöntemi kullanılarak analiz edilmiştir.

**Bulgular:** İki tema ve altı alt tema elde edilmiştir. İki ana tema şöyledir: (1) Pandemi döneminde anne olmanın zorlukları ve (2) Pandemi döneminde annelerin bebek bakımına katılımı sırasında yaşanan zorluklar. Anneler anneliği yaşayamadıklarını; sürekli korku, kaygı ve endişe yaşadıklarını; ailelerinden ve sağlık çalışanlarından yeterli desteği alamadıklarını belirtmişlerdir. Bebeklerini ancak taburcu tarihine yakın bir zamanda ziyaret edebildiklerini, bakım sürecine katılmadıklarını, sağlık çalışanlarından yeterli bilgi alamadıklarını ve hastaneden çıktıktan sonra bebeklerinin bakımına tam olarak hazır hissetmediklerini bildirmişlerdir.

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**Sonuç:** Bu çalışma, ziyaret kısıtlamaları nedeniyle YYBÜ annelerinin annelik rollerini yerine getirmekte zorlandığını ve COVID-19 pandemisi sırasında aile merkezli bakım uygulamalarının yetersiz kaldığını göstermiştir. Pandemi gibi kriz dönemlerinde, bebek-anne bağlanmasını geliştirmek ve annelerin bebeklerinin bakımına katılımını artırmak için stratejiler uygulanmalıdır.

**Anahtar Kelimeler:** COVID-19, annelerin deneyimleri, aile merkezli bakım, yenidoğan yoğun bakım ünitesi, ziyaretçi kısıtlamaları

## Introduction

Due to the risk of contamination during the Coronavirus disease-2019 (COVID-19) pandemic, many neonatal intensive care units (NICUs) implemented strict visitation policies (1,2). In a global-level study of visitation restrictions in NICUs during the COVID-19 pandemic, data were obtained from 277 units, revealing that only 27% of NICUs use the single-family room design, which allows parents to remain in the unit at all times. The study also revealed that there was a significant decrease in psychosocial support services provided to families during this period (1). Strict infection control precautions have been found to obstruct parental involvement in care, which is one of the main principles of family-centered care (FCC) in NICUs. In this regard, mothers could not breastfeed their infants, and parents could not participate in care practices or interact with their infants through direct contact (2,3). Such measures have restricted FCC that supports unlimited parental presence in NICUs aimed at protecting and promoting the health of vulnerable newborns and their mothers (4).

The admission of an infant to the NICU is a stressful process that may adversely affect the psychosocial health of parents and interfere with their parental roles (5). Studies conducted during the pre-COVID-19 period have shown that parents with infants admitted to the NICU experience emotional problems such as anxiety and distress (6,7), serious mental issues such as severe depression, post-traumatic stress disorder (6), and feelings of helplessness and guilt (7). In addition to the challenges posed by medical conditions and limited access to formal and informal support networks during the pandemic, parents experienced other sources of stress such as the fear of being separated from their infants and the fear that they or their infants would contract the virus (8). Studies conducted in the NICU during COVID-19 have confirmed that mothers' stress levels increased during this period (9,10), adversely affecting their social/family relationships and their ability to assume the role of motherhood (9). Therefore, NICU health professionals

were encouraged to implement policies designed to better support parents (4,11).

The implementation of visitation restrictions and, accordingly, FCC initiatives in the NICU during the COVID-19 pandemic, differ across countries and institutions (1,3,4). One study conducted with 1,148 parents in 12 countries (including Turkey, Australia, Canada, France, New Zealand, and Switzerland) during the pandemic revealed that more than 90% of respondents reported that their presence was allowed in the NICU, although this rate was below 50% in China, Turkey, Poland, and Ukraine (3). Data obtained from the World Health Organization indicated that in Turkey, where the average number of preterm births (12.41%) is higher than the global average (10.60%) (12), FCC practices were not widely implemented (13,14), despite successful examples of either FCC or kangaroo practices during the pre-COVID-19 period (15). Measuring the psychological impact of COVID-19 on parents and frontline healthcare professionals deepens the understanding of how the pandemic is impacting FCC practices and dynamics in NICUs (16). Because parents were not able to be with their infants due to the strict measures imposed during the COVID-19 pandemic, it was inevitable that mothers would be adversely affected; therefore, the protection and maintenance of mothers' physical, emotional, and social well-being is essential for the health of both the child and the family, as well as of society (11). A better understanding of the experiences of NICU mothers during the COVID-19 pandemic, during which strict restriction measures were employed, may contribute to the improvement of clinical practices and healthcare institution policies and procedures.

## Material and Method

### Aim and Design of the Study

The study was a descriptive qualitative design, which provided to a comprehensive narrative of participants to explain their views and life experiences of the phenomenon under investigation (17). This study aimed to reveal mothers' experiences, opinions, and suggestions concerning the hospitalization and discharge of their infants during COVID-19 visitation restrictions in the NICU. The current study used a thematic analysis approach to explain the experiences of NICU mothers, and data were collected using the individual, in-depth interview method.

### Setting and Sample

The study was conducted in the NICU of a university hospital in İstanbul, the largest province by population in Turkey. The NICU contained 53 incubators (37 third-level,

## Main Points

- The current study empirically revealed that the difficulties experienced by mothers with regard to both themselves and their infants, difficulties of neonatal intensive care unit (NICU) mothers' fulfilling their maternal roles and, inadequacy of family-centered care practices due to visitation restrictions during the pandemic.
- It also showed that in crisis situations such as the Coronavirus disease-2019 (COVID-19) pandemic, clinical nurses in the NICU are not adequately involved in practices aimed at involving mothers in care.
- It reveals the need for visitation policies and/or guidelines designed to involve parents in care during crisis situations such as the COVID-19 pandemic.

14 second-level, and 8 first-level beds). According to data obtained in 2021, 889 newborns received treatment and care in that unit in a year, and 87.1% were premature cases. Staff employed in the NICU included a full-time neonatologist, four pediatricians, 50 staff nurses, one charge nurse, one training nurse, and 11 care support personnel. Before the pandemic, parents were allowed visits without time restrictions, as part of the FCC approach. Mothers and fathers participated in the care of their infant, and the implementation of FCC practices was supported by NICU nurses. Mothers participated in their baby care under the supervision of nurses, especially during the baby's nursing and feeding diaper change hours. However, due to the pandemic, the Ministry of Health imposed strict visitation restrictions across the country (including in NICUs) (18), and parents were only relayed daily information by the attending physician. The parent only saw their baby after the birth and before the discharge. This study used the purposeful and maximum variation sampling method. For this purpose, it was taken into consideration that the babies varied in terms of gestation week, length of stay in the NICU, mothers' age, education, and number of births.

The data collection process continued until data saturation was reached. One of the sampled mothers' babies was hospitalized in the NICU because of transient tachypnea of the newborn, and the others were hospitalized in the NICU only because they were premature. The study's data were obtained through in-depth, semi-structured interviews, and the sample consisted of 11 mothers with infants admitted to the NICU between May 4 and June 24, 2021. All mothers were over the age of 18, had no communication deficiencies, and volunteered to participate in the study. Participants' socio-demographic characteristics are shown in Table 1.

### Data Collection

The data collection forms included an introductory information form (containing questions about the socio-demographic characteristics of the mothers and infants) and a form containing six semi-structured interview questions prepared based on literature by the researchers (19,20). The data were collected using the individual, in-depth interview method. Pilot interviews were conducted with two participants, using the semi-structured interview

**Table 1.**  
**Demographic Characteristics of the Study Participants**

Information about the mothers					Information about the infant		
Code	Age	Education level	Multiple birth	Total time spend with baby in NICU before discharge	Weeks of gestation	Weight at birth in grams	Days of hospital stay
M1	31	High school	2	5 min	29	1670	46
M2	30	High school	2	10 min	36.5	3200	14
M3	41	High school	3	5 min	26	1100	53
M4	29	High school	2	5 min	35.5	2940	10
M5	23	Undergraduate	1	5 min	38	2390	19
M6	31	Undergraduate	1	4 hours	36	3820	7
M7	35	Primary school	3	10 hours	37	3650	11
M8	36	Secondary school	2	5 min	34	3085	22
M9	29	Undergraduate	2	5 min	22.5	579	147
M10	27	High school	1	5 min	30.5	1885	31
M11	29	High school	2	5 min	37	2760	18

NICU=neonatal intensive care unit

**Table 2.**  
**Semi Structured Interview Questionnaire**

Questions
1. How did it make you feel to have a baby admitted to intensive care during the COVID-19 pandemic?
2. Could you share your experiences about your participation in the treatment and care of your baby while she/he was in neonatal intensive care?
3. What challenges you experienced/encountered while your baby was in neonatal intensive care?
4. How did you cope with the challenges you encountered? From whom you received support during this process?
5. How do you consider/perceive the support you received from the physicians and nurses in the neonatal intensive care unit?
6. As a mother with a baby in neonatal intensive care, would you like to share any other opinions and suggestions?

COVID-19=coronavirus disease-2019

form (Table 2). No changes were made to the questions as a result of the pilot interview. All interviews were conducted on the day of discharge. When discharge dates were finalized, potential participating mothers were informed about the study and were told that interviews would be audio recorded. After participants gave consent of participation, interviews were scheduled to occur at a convenient time on the day of discharge. A researcher holding a master's degree in pediatric nursing and experienced in qualitative research/interviews conducted all face-to-face interviews. Interviews were conducted in the training nurse's room in the NICU, and necessary measures were taken to ensure that there were no interruptions. At the beginning of the interview, participants signed an informed voluntary consent form, and interviews (audio recorded) lasted an average of 25 minutes, during which the researcher recorded written notes. At the end of each interview, the interviewer summarized the session before asking the participants whether they would like to revise any comments. Audio recordings of the interviews, as well as written notes, were then transcribed and reported. The interviewer then sent all audio recordings and written notes to the other researchers for analysis and storage.

### Statistical Analysis

Thematic analysis was conducted in accordance with the literature (21). To familiarize data and generate initial codes, three researchers experienced in qualitative research repeatedly and separately read the transcripts of the interviews in order to obtain a sense of the complete data, and the data were encoded line by line without using any software program. In order to identify the main themes, the three researchers recorded potential themes and sub-themes by separately collating the codes. The themes and sub-themes were then reviewed in meetings in which all researchers participated, terminating once consensus was achieved.

### Rigour and Trustworthiness

In order to achieve rigour, this study used four criteria (credibility, dependability, confirmability, and transferability), established by Lincoln and Guba (22). All participants gave consent to voluntarily participate in the study, and no personal relationship existed between the participants and the researchers. Participants were encouraged to freely express their opinions, and interviews were conducted in a comfortable and quiet environment, ensuring credibility. In order to ensure conformability, all interviews were conducted by one researcher, with three researchers independently and actively participating in the data analysis process. In order to ensure dependability, a semi-structured interview form was used during the interviews, and in order to ensure consistency and validity in the data, themes and sub-themes were identified and finalized by three researchers through consensus. Transferability was achieved via the provision of rich descriptions and verbatim quotes, allowing readers to conclude whether the present study's findings relate to their own settings. The Standards for Reporting Qualitative Research was used to report this study.

## Results

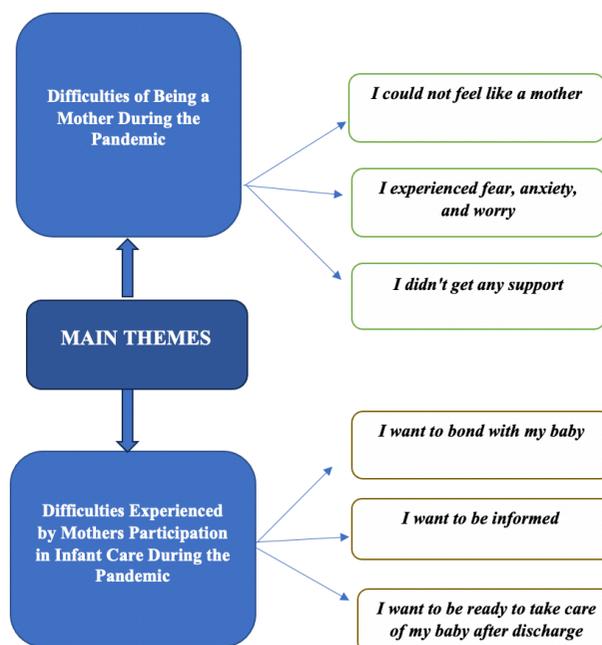
Two themes and six sub-themes were identified as a result of this study's interviews. These are (Figure 1):

- (1) Difficulties of being a mother during the pandemic
  - (1.1) I could not feel like a mother
  - (1.2) I experienced fear, anxiety, and worry
  - (1.3) I didn't receive any support
- (2) Difficulties experienced during mother's participation in infant care during the pandemic
  - (2.1) I want to bond with my baby
  - (2.2) I want to be informed
  - (2.3) I want to be ready to take care of my baby after discharge.

### Theme 1: Difficulties of being a mother during the pandemic

#### 1.1. I could not feel like a mother

The majority of mothers stated that they were not able to see or touch their infants, could not experience real motherhood, and experienced distress due to visitation restrictions during the COVID-19 period.



**Figure 1.**  
**Theme and subtheme**

*"Imagine that you have given birth, had surgery, but you don't have your baby with you. You want to see her, but you can't...you can't imagine how empty I felt when I got home" (M-10).*

*"It was hard not to see her, not to hear her voice, not to be able to breastfeed her. Mothers can't stay apart from their babies. It's very difficult. As a mother and father...we wanted to feel and know that we were her parents" (M-1).*

*"The first few days we didn't have anything with us, not even his picture. We couldn't even see him. It was the most oppressive feeling, not being able to see him. It was very bad; I felt so empty" (M-4).*

*"I am a mother, yet I didn't have my baby with me. It has been six months, and he doesn't know how I smell or what I sound like. He always heard others, the voices of nurses. Sometimes I was jealous of them..." (M-11).*

*"Even though I couldn't breastfeed my baby, I used the breast pump regularly. Since I couldn't be a mother during this period, at least I could do this. I'm worried about how my baby's mental health will be affected once he becomes an adult. I wonder if he will feel incomplete" (M-3).*

## **1.2. I experienced fear, anxiety, and worry**

The majority of the mothers stated that they experienced fear, anxiety, and stress, both due to having an infant admitted to the NICU and due to the COVID-19 pandemic, which also caused them to experience sadness and pain.

*"I mean, we were comfortable because we believed that she was in good hands, but not knowing how he was growing and not being able to predict how he would be affected bothered us. It was upsetting and caused us stress" (M-2).*

*I was afraid that my breast milk production would be disrupted, and I was very afraid that if I went to the hospital, I would get COVID-19" (M-11).*

*"That's why my mental health turned upside down. Imagine that you can't see your baby for five months; you can't touch him. May god not inflict such a thing on anyone. I think it's one of the saddest situations for a mother; we had no choice but to be patient" (M-9).*

*"Every day, my family asked whether they called or what they said. They said things like, 'Why don't they show you the baby?', 'How is that possible?', 'The baby needs to hear your voice and smell you.' I became really depressed and cried for hours. So there was nothing but desperation. It's hard, very hard" (M-10).*

*"It was sad not being able to be there for my baby, not being able to hold him, touch him, or breastfeed him. And I felt that I was missing his growth, like he was growing up without me. My heart remains in the NICU" (M-4).*

## **1.3. I didn't receive any support**

Due to the COVID-19 period and restricted visits and lockdowns, to which individuals over a certain age are particularly subjected, mothers stated that although their spouses tried to help them, they did not receive the type of support from close family members (such as mothers or mothers-in-law) normally given while at home during partum and postpartum periods. In addition, they stated that they wanted to receive additional support from healthcare professionals during the care process and that they experienced stress and anxiety during NICU admissions.

*"...I could have breastfed him just like I'm doing now. It's one of the issues I'm not comfortable with. In my opinion, mothers should be allowed around the babies during this process. We should have gotten more support in this regard" (M-5).*

*"I've heard her voice today, for the first time in months. What a pain for a mother, and how sad this is. Nurses should provide more support to mothers" (M-10).*

*"I was alone most times, and there were times that were emotionally challenging. My husband has been supportive, but I don't think it's enough" (M-6).*

*"I was not mentally well, and only my husband was supportive. During such a time, we were left alone. What kind of disease is this that doesn't allow our mothers or friends to visit us? There is no support at all" (M-2).*

*"No one's there for you during this period. It's just me. My husband has supported me a little, that's all. I wish I could get support from the hospital. I wish they would have involved the mothers in their babies' care" (M-8).*

*Theme 2: Difficulties experienced during mother's participation in infant care during the pandemic*

## **2.1. I want to bond with my baby**

The mothers participating in the study shared their concerns about the fact that they could not visit or see their infants during the pandemic. Most of them stated that they were only able to see their infants days after birth, or even close to the discharge date, and that they were unable to establish a mother-infant bond. Some mothers also raised concerns about how such lack of bonding would affect their infants (development), both in the short and long term.

*"I don't know, we couldn't physically touch her, but I was able to provide milk, even if it was just two drops. I knew that even that was valuable, especially during this period. It was the only thing that could strengthen the bond between us. Maybe he would grow faster if he felt that his parents were there beside him" (M-8).*

*"We just brought milk twice a day...I put a handkerchief on my chest and sent it to him, so that she could sleep with my smell" (M-5).*

*"No, I was just able to breastfeed today. He didn't suck enough because he forgot about me, forgot my smell. He preferred the bottle to my breast. What if he keeps preferring bottle-feeding? What about the bond I have to build with him?" (M-7).*

*"How will that baby grow and develop? She needs her mother. I know that intensive care is important for her survival, but we also need to think about the psychological aspect, not just about the physical growth of the baby" (M-11).*

*"We couldn't see her, and they also performed the ROP examination. If we were there with our baby during that examination, maybe she would have felt less pain because we could have held her hand" (M-3).*

## **2.2. I want to be informed**

The participants reported that they regularly received information about their babies from their physicians during weekdays, and they indicated that they were satisfied with this information. However, they also stated that they did not receive information from the nurses because the nurse's response was always that they did not have authority to relay such information.

*"The doctors kept us informed on weekdays by phone, and the nurses kindly greeted us when we brought milk..." (M-5).*

*"As a parent, you are not seeing your baby anyway. At least give us information about what is happening, and get our permission for procedures" (M-1).*

*"I was picking up the phone with excitement when they called, but they were saying a lot of things in just one minute. I wanted to hear more good things, but they were cramming everything I was looking forward to for days into one minute" (M-10).*

*"The nurses were not able to give us sufficient information... Babies are so small, and we worry a lot. We couldn't see him anyway, but at least we could have relaxed if given more information" (M-8).*

*"Nurses didn't say anything to us, and when we asked, they just said things like, 'We can't give you information right now.' We asked, 'How is she doing?', 'Is she able to breathe?', and they said that only doctors can give information about the baby. That was so bad for me. They should put themselves in our shoes. We want them to feel empathy for us" (M-7).*

## **2.3. I want to be ready to take care of my baby after discharge**

Mothers stated that they had concerns about the home care process after their infants were discharged from the NICU. They also shared feelings about their competence in providing care, stating that they did not feel prepared and that they worried that pre-discharge procedures were inadequate, since they had not participated in care.

*"I'm glad that he will be discharged, but I'm scared, too, because I have never touched my baby. I raised my other son, but he was healthy. Will I be able to take care of this baby after being discharged from intensive care after five months? I don't know what I can do. I wish they could allow us in for a week, maybe, before discharge, so that we could touch our babies and so they could give information about home care, I mean in cooperation. I would feel more comfortable then" (M-9).*

*"We need to perform aspiration at home. I wish this training had started earlier. They said they would only teach me, but they also should have taught my husband. I'm not the only one who's going to take care of our baby. They should also provide training to families. I've watched videos at home about performing aspiration, but I don't think it would be easy in practice. We are very worried about what we will do and will call the nurses as a last resort" (M-11).*

*Maybe the hospital can arrange special rooms or provide PPE, etc.; mothers should not be separated from their babies..." (M-7).*

## **Discussion**

This qualitative study, which aimed to reveal the phenomenon of mothers' experiences, opinions, and suggestions concerning the hospitalization and discharge of their infants during COVID-19 in the NICU, showed that mothers experienced intense emotional problems such as anxiety, stress, and helplessness caused by the interruption of mother-infant interaction. In addition, they expressed that they felt powerless, as they could not see, breastfeed, or touch their infants. Although the demographics of the mothers and their babies were different, similar statements were made by all mothers. While pregnancy and postpartum periods (23), as well as the period spent as the mother of an infant admitted to the NICU (5), were an important source of stress for mothers, NICU visitation restrictions caused by the pandemic were an additional stressor for mothers and/or family members (9,10). According to a study conducted in Turkey, mothers with infants receiving care in the NICU reported that "My arms were left empty... I could only see my baby through the glass, it is very sad and painful" (24). However, strict visitation restrictions during the pandemic prevented mothers from even seeing their child behind glass. Previous studies have found that parental separation from infants in the NICU led to insecurities concerning parental roles, resulting in feelings of disconnection or alienation from the infant (5,25). Regardless of postpartum depression and anxiety, it has been shown that the effective participation of mothers in the care process results in an increase in maternal caring behavior and a decrease in stress levels (26). These results highlight the importance of keeping mothers and their infants together in all circumstances in the NICU in order to maintain their mental health and well-being. In this context, it may be useful for NICUs to implement visitation procedures that follow approaches such as tele-medicine, telephone counseling, and online applications that promote

mother-infant interaction through the communication between technology-supported nursing, other healthcare professionals, and parents. It is also recommended that NICUs enable families to see their babies using applications such as webcams during strict visitation restrictions caused by crisis periods such as pandemics.

Another finding in this study was that mothers did not receive adequate support from their families and healthcare professionals. Abrupt visitation restrictions during the pandemic prevented relatives and friends from supporting mothers with infants in the NICU (27), causing them to feel alone and unassisted during the delivery and postpartum periods (8,28). Since access to social support and resources was limited due to COVID-19 measures, NICUs experienced a decrease in breastfeeding and other support services (1). The current study's results are consistent with previous studies, revealing the need for health institutions to review actions taken during crisis situations caused by the pandemic, as well as for the need to develop strategies designed to support the participation of families (1,27). Considering the necessity of mothers' well-being, these results emphasize the importance of providing psychological and social support to mothers with infants in the NICU. During pandemic periods, NICU nurses must employ successful communication skills in order to understand the needs of parents and assuage parents' increasing concerns and fears. However, this is not an easy task because the interaction between nurses, other healthcare team members, and parents in the NICU is a multifaceted and complex process. Therefore, NICU nurses need effective training not only to enhance their awareness of and compassion for parents' individual, cultural, emotional, and psychological needs but also to plan and provide their care based on such parental needs.

Another important result obtained from this study concerns the problems in mother-infant bonding caused by parental separation from infants. Mothers stated that their inability to care for their infants had both short-term (reducing pain, contributing to their infants' growth, etc.) and long-term (impact on infants' mental health) effects. These results support evidence-based information indicating that physical closeness between the parent and newborn after birth contributes to the development of attachment (15,27). In addition, as previous experimental studies have shown that FCC care initiatives improve neonatal and parental outcomes such as infant weight gain, parental happiness, and parental caring behavior (15,28), the concerns of the mothers participating in this study are noteworthy. It may be useful to establish institutional follow-up care for better short- and long-term mother-infant outcomes after discharge, thereby maintaining mother/infant well-being and identifying needs related to the healthy growth and development of infants.

Another finding was that mothers with infants admitted to the NICU did not receive information about the baby's condition and progress, as well as preparation for the care process at home. In a systematic review conducted during

the COVID-19 period, it was found that due to lack of staff and support, mothers were not encouraged to breastfeed, their knowledge and skills concerning the care process were not sufficiently developed, and 80% of mothers in units with restricted visits stopped breastfeeding. The same study showed that in NICUs with private rooms allocated to families, parents were allowed to be with their infants at all times (29). Regardless of the method by which the mother and other family members are included in the care process, their role at the bedside is extremely important, even when executed via virtual devices. Although the practices of NICU clinicians and managers depend on the healthcare environment conditions in which they work, their role is to prioritize and lead FCC practices (11,27). In this context, during visitation restrictions caused by pandemics or other crisis periods, the need to provide NICU nurses with various resources such as on-line parent education materials, virtual visitation programs, discharge preparations, follow-up infant care, and web-based applications is crucial. Regardless of circumstances, NICU nurses, NICU managers, and policy makers are encouraged to develop strategies and projects designed to involve parents in infant care. Moreover, the views and suggestions of parents concerning NICUs during COVID-19 can provide important clues and insights that can be used to better involve parents in infant care.

The last important finding obtained from this study was that nurses did not relay adequate information to mothers and/or parents. The opinions of mothers participating in the current study may have been affected by excessive nursing workloads during the pandemic, feelings about an unknown future, stressful work environments, rapidly changing units/departments caused by the absence of infected colleagues, inadequate knowledge and skills/competencies, and lack of nurse autonomy. Some studies conducted in Turkey have also discussed the lack of autonomy among nurses (30,31). Stewart et al. (32) has stated that in order to ensure the health of individuals and society at the global level, the role of nurses in the healthcare system must be strengthened, and strategies designed to improve nurse autonomy must be implemented. It is recommended that in order to improve parental participation in NICU, autonomy and decision-making competencies of nurses be increased by expanding role and responsibilities in clinical practice and supporting nurse education and development through in-service trainings.

### **Study Limitations**

This study is limited to the opinions of mothers with infants admitted to the NICU at the institution where the study was conducted. Another limitation is that this study did not consider NICU nurses' opinions.

### **Conclusions**

This study reveals the opinions and experiences of parents with infants admitted to the NICU during the pandemic, concerning both the difficulties of being a mother and participation in the care process during this period. The

findings show that mothers require different types of support, including emotional support, social support, and the provision of adequate information. In accordance with these results, it may be concluded that nurses and institutional managers should take mothers' concerns into account when planning and providing care services. Nurses should actively communicate with parents, provide sufficient emotional support, and reduce parents' anxieties regarding their everyday concerns for their infants. Such support can help relieve parents' psychological stress. While hospitals develop policies to ensure the safety of patients and parents during such crisis periods, they should also adopt innovative approaches designed to actively involve parents in the care process.

The study also showed that the parents of infants admitted to the ICU during COVID-19 quarantine procedures experienced stress, primarily because they were not allowed to visit their infants. This study therefore highlights the importance of being cautious of such restrictions, reducing them when necessary. Future studies might focus on the long-term psychological consequences experienced by such parents, as well as on the later growth and development of infants who received care and treatment in NICUs during the pandemic.

### Practice Implications

Mothers are affected by a variety of difficulties due to the strict NICU visitation restrictions during the COVID-19 pandemic. Mothers need different types of support, including emotional support, social support, and the provision of adequate information during crisis situations such as the COVID-19 pandemic. In order to develop policies designed to ensure the safety of patients and parents during such crisis periods, hospitals should adopt innovative approaches aimed at actively involving parents in the care process. Nurses and institutional managers should take mothers' concerns into account when planning and providing care for infants in NICU.

In order to protect the health of mothers and infants during crises such as pandemics, restriction policies and guidelines are required. The current study has emphasized points of consideration for healthcare professionals by revealing the experiences of mothers with infants in the NICU during the pandemic.

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**Informed Consent:** Participants were first verbally invited to join the study before giving written consent in accordance with the informed voluntary consent form.

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