Determining the anxiety levels, postpartum support needs, and the levels of received support in puerperae during the COVID-19 pandemic period

ABSTRACT
Objective: This research was conducted to determine the anxiety levels, postpartum support needs, and the levels of received support in puerperae during the pandemic period.

Material and Methods: The cross-sectional study was carried out between April and August 2020 at the Postpartum Service of the Gynecology and Children’s Diseases Training and Research Hospital on the Anatolian side of Istanbul. Three hundred postpartum mothers who met the sampling criteria and volunteered to participate were included in the study. Data were collected using a survey form containing the participants’ demographic, individual, and obstetric characteristics, their opinions on the COVID-19 process, the Beck Anxiety Scale (BAS), and the Postpartum Support Scale (PSS).

Results: It was determined that the average Beck Anxiety Scale score of the participants was 13.71±11.21, and 55% of them experienced moderate postpartum anxiety. The total Postpartum Support Scale mean score regarding the importance of support for the puerperae was calculated as 149.65±47.50, and the support received related to this need was found to be 118.32±48.58.

Conclusion: It was determined that women experienced postpartum anxiety at a moderate level, needed considerable support during this period, but did not receive much support.

Keywords: Anxiety, COVID-19, postpartum, support.
INTRODUCTION

The COVID-19 pandemic has affected individuals of all age ranges, but it has particularly had negative effects on the health of the mother and fetus/neonate during the pregnancy, birth, and postpartum periods, which are considered sensitive periods in life even before the pandemic.1,2

Although studies have been conducted on the effects of COVID-19 on pregnant women, fetuses, and neonates, the findings are still far from adequate. Moreover, taking measures to protect the mother, fetus, and neonate from infection and maintaining quality care during the delivery and postpartum periods are important for improving the health of both the mother and the neonate.3–5

The delivery and postpartum period is marked by complex psychological factors and significant physiological changes. During this time, the mother faces various challenges as she adapts to the baby, the new family order, postpartum physiological and psychological changes, and postpartum disorders.6–7

During the postpartum period, women encounter physical and psychological changes along with new roles and responsibilities, which can create stress in emotional, behavioral, and cognitive areas. If women cannot adapt to this period or find adequate support, they may face mental problems such as anxiety and depression. Literature states that 2–25% of women experience postpartum emotional problems.8–10 Studies indicate that these problems negatively impact mother-infant interactions, family and marital relationships, and child development.11,12 While one meta-analysis stated that depressed mothers were more irritable and exhibited less warm behavior towards their babies in the first three months,13 another study found a significant negative relationship between postpartum emotional problems and marital relationships.14

With the addition of the global pandemic process and related restrictions to this special and important period, it is doubtless that the concerns and worries of mothers and their families will increase.5 It has been noted that isolation and quarantine conditions, use of protective equipment, transportation difficulties, worries about access to food, travel restrictions, reduced support from family and friends, social and psychological loneliness, and financial limitations during the pandemic may cause mothers and their families to experience anxiety and post-traumatic stress disorders, as might all individuals of various age ranges.8,9,15

While midwives and nurses deliver services such as care, training, and consulting during the pre-delivery, delivery, and postpartum periods, they should be aware that the postpartum period also involves other family members and consider the woman’s family as a whole.16,17 Especially during the COVID-19 pandemic, it is important to determine mothers’ social support needs and concerns related to the process in the postpartum period, during which significant health-related concerns are expected to increase daily and potentially affect society as much as health and clinical problems.5,18

In this study, which covers all needs, the aim was to determine the anxiety levels, postpartum support needs, and levels of received support in puerperae during the COVID-19 pandemic period. The study sought answers to the following questions:

1. In which area do women who gave birth during the COVID-19 pandemic period need the most support?
2. Regarding which COVID-19 related issues do women who gave birth experience anxiety?
3. From whom do women who gave birth during the COVID-19 pandemic period most want to receive support?
4. At what level is the anxiety severity of women who gave birth during the COVID-19 pandemic period?
5. Is there a difference between the sociodemographic and obstetric characteristics and the anxiety severity levels of women who gave birth during the COVID-19 pandemic period?
6. What is the status of support received in the postpartum period by women who gave birth during the COVID-19 pandemic period?
7. Is there a difference between the sociodemographic and obstetric characteristics and the support received in the postpartum period by women who gave birth during the COVID-19 pandemic period?
8. Is there a relationship between experiencing anxiety and receiving postpartum support among women who gave birth during the COVID-19 pandemic period?

MATERIAL AND METHODS

Location and Time of the Study

The study was conducted as a cross-sectional research at the Maternity and Children Training and Research Hospital Postpartum Care Service, located on the Anatolian side of Istanbul province. This facility serves a high population of pregnant women, has a high birth rate, and continued its services without interruption during the pandemic period, between April and August 2020.

Population and Sample

The population of the study comprised puerperae who gave birth at the hospital and volunteered to participate in the study. The sample consisted of 300 puerperae who gave birth at the hospital, were between the ages of 20–40 years, literate, had no barriers in terms of communication, and consented to fill in the questionnaire after being informed of the study’s purpose. Puerperae who were suspected or diagnosed with COVID-19 and those previously diagnosed with a psychiatric disorder were excluded from the study.

The sample size was calculated using OpenEpi (version 3) software, based on an unpredictable anxiety rate predicted at 50%. A sample size of 287 was found sufficient to represent the number of puerperae who gave birth at the study hospital within a month with a 5% alpha error and 99% power rate.

Study data were collected through face-to-face interviews conducted by the researchers at the postpartum clinic of the relevant hospital and two hours before the women were discharged.

Data Collection Tools

Data were collected using the Puerperae Identifying Information Form, which contained sociodemographic and obstetric characteristics of the participants, their views on the COVID-19 and postpartum processes, the Beck Anxiety Inventory (BAI), and the Postpartum Support Scale (PSS).

June 2024
Table 1: Participants’ concerns about the COVID-19 Infection

<table>
<thead>
<tr>
<th>Concerns about the COVID-19 infection</th>
<th>Yes</th>
<th>Yes</th>
<th>Undecided</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>I do not want to go to follow-up appointments for fear that I might contract the COVID-19 infection</td>
<td>154</td>
<td>51.3</td>
<td>89</td>
<td>57</td>
</tr>
<tr>
<td>I believe adequate measures have been taken in the hospital where I gave birth</td>
<td>125</td>
<td>41.7</td>
<td>115</td>
<td>60</td>
</tr>
<tr>
<td>I think the COVID-19 infection might be transmitted from health professionals</td>
<td>202</td>
<td>67.3</td>
<td>76</td>
<td>22</td>
</tr>
<tr>
<td>My husband is working, and I fear that he may bring the COVID-19 infection to our home</td>
<td>179</td>
<td>59.7</td>
<td>575</td>
<td>64</td>
</tr>
<tr>
<td>I think my baby may be harmed if I contract the COVID-19 infection during the puerperal period</td>
<td>201</td>
<td>67.0</td>
<td>85</td>
<td>14</td>
</tr>
<tr>
<td>It worries me to go out with a face mask on in the COVID-19 process</td>
<td>153</td>
<td>51.0</td>
<td>45</td>
<td>102</td>
</tr>
<tr>
<td>I am worried that if I become COVID-19 positive, I may not breastfeed my baby</td>
<td>105</td>
<td>35.0</td>
<td>106</td>
<td>89</td>
</tr>
<tr>
<td>I am worried about who would take care of my baby if I contracted the disease</td>
<td>123</td>
<td>41.0</td>
<td>120</td>
<td>57</td>
</tr>
<tr>
<td>I will not be able to get support from my family elderly in the postpartum period, so I have concerns about breastfeeding and baby care.</td>
<td>84</td>
<td>28.0</td>
<td>47</td>
<td>169</td>
</tr>
<tr>
<td>I am worried about visiting a health care institution for vaccination and control of my baby.</td>
<td>142</td>
<td>47.3</td>
<td>75</td>
<td>83</td>
</tr>
</tbody>
</table>

**Puerperae Identifying Information Form:** This form, prepared by the researchers in line with the literature, includes 28 questions that inquire about the puerperae’s sociodemographic and personal background (age, date of marriage, education, employment, economic status, family type, presence of a chronic disease) and obstetric background (number of pregnancy weeks, whether the pregnancy was planned/unplanned, experiences of difficulty in previous and current pregnancies, labor process), their worries related to the COVID-19 pandemic, their anxiety status regarding COVID-19 infection, and evaluation of their need for social support during the COVID-19 pandemic period.[5,6,18] Prior to the study, the questionnaire was piloted on some women, and the content was revised accordingly.

**Beck Anxiety Scale (BAS):** Developed by Beck et al.[19] (1988) and adapted to Turkish by Ulusoy et al.[20] (1998), the BAS evaluates the frequency of anxiety symptoms experienced by an individual. This 21-item scale is scored between 0 and 63, with higher scores indicating greater severity of anxiety. Ulusoy et al.[20] determined the scale’s Cronbach’s alpha internal consistency coefficient as 0.93. In the present study, the Cronbach’s alpha internal consistency coefficient of the Beck Anxiety Scale was determined to be 0.92.

**Postpartum Support Scale (PSS):** Developed by Logsdon et al.[21] (1996) to determine postpartum social support and social needs of mothers, the validity and reliability studies of the scale were conducted by Ertürk[22] (2007). The scale comprises two subdimensions: “the importance of the need” and “received support” related to this need. The 34-item scale is an 8-point Likert-type scale. The Cronbach’s alpha coefficient for the importance of the need subdimension of the scale is 0.88, while for the received support subdimension, it is 0.95. The lowest and highest scores that can be obtained from each subdimension of the scale range from 0 to 238. A total score below 130 on the importance of the need subdimension is evaluated as “Not Important,” scores between 131 and 150 as “Important,” and scores above 151 as “Very Important.” In the present study, the total Cronbach’s alpha coefficient for the “Importance of the Need” subdimension of the PSS scale was found to be 0.89, and for the “Received Support” subdimension, it was determined to be 0.92.

**Ethical Considerations**

Necessary permissions for the study were obtained from the institution where the study was conducted, and the Hospital Ethics Board evaluated and approved the study (decision dated 06.05.2020 and numbered 84). After the puerperae participating in the study were informed about the purpose of the study and were explained that the information collected would be used only in this study, their written consent was obtained. The study was conducted in accordance with the Declaration of Helsinki.
Data Analysis

The data collected in the study were evaluated using the SPSS software package. Chi-square tests were used to test the relationships between categorical variables, and for data that showed a normal distribution, independent groups t-test and One-Way ANOVA were employed. As descriptive statistics, mean±SD (standard deviation) and min–max values were calculated for numerical variables, while number and percentage values were calculated for categorical variables. The relationships between the scales were analyzed through Pearson correlation analysis. The statistical significance level was accepted as p<0.05.

Limitations of the Study

The results obtained from this study are limited to the cases from which the data were collected.

RESULTS

When examining the sociodemographic and health characteristics of the puerperae participating in the study, it was observed that the mean age of the women was 29.4±5.9, they had been married for 6.4±5.1 years, and the majority (31.2%) were secondary school graduates. It was also determined that 77.3% of the women had a nuclear family structure, the majority (84%) were not working during the pandemic period, their incomes were almost equal to their expenses (58.3%), and 99.7% had social security. The majority of the participants (63.4%) had a planned pregnancy, 72% were multiparous, and 26% had a risky pregnancy. Additionally, it was found that 36.3% of the participants had received postpartum care training, 58% had a C-section in their current pregnancy, and the majority (88.7%) breastfed their babies.

Table 1 illustrates the participants’ concerns about COVID-19 infection. The puerperae were most worried about the transmission of the COVID-19 infection from health professionals during the pandemic period (67.3%), followed by concerns about their babies being harmed if they contracted the COVID-19 infection (67%), and concerns about their husbands bringing home the COVID-19 disease (59.7%).

Among the issues for which the puerperae needed support in the postpartum period, assistance with household chores was the most significant (25.1%), followed closely by baby care and feeding the baby (24.3%). It was determined that women needed the most support from their husbands during this period (65.7%) (Table 2).
It was found that the average score of the participants on the Beck Anxiety Scale was 13.71±11.21, indicating that 55% of participants experienced moderate levels of anxiety. When comparing the mean scores obtained from the Beck Anxiety Inventory with certain variables as presented in Table 3, it was determined that income level, type of delivery, whether the pregnancy was planned, and parity were influential, and the differences between them were statistically significant (p<0.05).

The PSS total mean score for the importance of the need subdimension was 149.65±47.50, while for the received support subdimension, it was 118.32±48.58 (Table 4). An evaluation according to the scale’s cutoff points indicated that the women needed significant support, but the support they received was limited.

When comparing the PSS mean scores of the puerperae with certain characteristics as presented in Table 5, it was determined that in the importance of the support subdimension, age group, employment status, and having received postpartum care training significantly affected their perception of needing support, with significant differences between mean scores (p<0.05). Particularly, the mean scores of the puerperae who were in the 19–29 age group, were actively working, and had received postpartum care training were higher compared to other groups.

In the received support subdimension, significant differences were found between age group, employment status, type of delivery, and having received postpartum care training, with mean scores obtained from the received support subdimension (p<0.05). The mean scores of the puerperae who were in the 19–29 age group, were actively working, and had received postpartum care training were higher in comparison to other groups.

In the relationship between the puerperae’s mean scores obtained from the Beck Anxiety Inventory (Mean=1.40, SD=0.52), PSS importance of the need subdimension (Mean=4.50, SD=2.07), and PSS received support subdimension (Mean=2.24, SD=2.21) was measured with Pearson correlation analysis. While a positive and low-level relationship was found between these variables, the difference between them was found to be insignificant (r(228)=0.067, 0.089, p>0.05) (Table 6).

**DISCUSSION**

The postparturium is a turning point for the mother and the family. It is particularly a significant period in which the mother and the family who newly experienced the event are in need of information and support most.[7] In the study, it was aimed to determine the anxiety levels of the puerperae, their need for support, and the levels of support they received in the COVID-19 pandemic period.

It was found that 10% of the women participating in the study experienced anxiety at a severe level, that especially the anxiety levels of those who gave birth for the first time, had an unplanned pregnancy, and had not received training prior to birth were higher, that the puerperae who were in the 19–29 age group, were actively working, gave C-section birth, and had received postpartum care training needed to receive support.

The number of studies in which the challenges, worries and support needs that puerperae experienced in relation to COVID-19 are limited. The lack of social support received by the individuals leads to anxiety and stress disorders.[23]

In the study, when the concerns of the puerperae related to the pandemic period were evaluated, it was determined that they were worried about the transmission of the COVID-19 infection from health care professionals (67.3%), and about their babies’ being harmed if they contracted the COVID-19 infection in the puerperal period (67%). In a study conducted, it was reported that 12% of the participants experienced difficulty in sleeping due to their worries about the pandemic. In various studies conducted, it was determined that women were worried about being infected and the risk of cross contamination during the coronavirus epidemic.[23–27] It is important that all health care professionals assume an integrated role and activate and restructure their support processes in order to alleviate the increased concerns in puerperae and their families stemming from uncertainties in the pandemic period.

In addition to being a physiological process in which significant biological changes are experienced, the puerperal period is also a complicated and sensitive process where suppressed and unsolved conflicts in the early developmental period surface again.[28] In the study, it was determined that 55% of the participants experienced a low-level anxiety, and that only 10% had severe anxiety levels. In the comparison made between the BAS mean scores and the variables, it was found that the BAS mean scores of the puerperae who had low-level income, gave C-section birth, had unplanned pregnancy, had their first pregnancy, and had not received postpartum care training were high (p<0.05).

In a study conducted in the Wuhan district of China with the participation of 1,210 individuals to investigate the psychological effects of the epidemic in its early period, it was determined that 53.8% of the participants displayed moderate or severe psychological effects of the epidemic, 16.5% exhibited moderate depression symptoms, and 28.8% showed moderate or severe anxiety symptoms.[27] When risk factors related to postpartum anxiety and stress were examined, it was reported that mother and father candidates who would have a baby for the first time experienced more anxiety before the birth and in the postpartum period compared to the couples who had had a baby before, although there are also studies which state that the anxiety experienced before the birth and in the postpartum period is not associated with the number of children the couples had.[17,29,30]
In some epidemiological studies conducted, it was revealed that in terms of the occurrence of serious mental diseases, the postpartum period is three to four times riskier than the pregnancy period.\[20,28,31\]

During the pandemic, the anxiety level of the puerperant increases due to being in a risk group, fear of transmitting the disease to the baby, and social isolation and quarantine practices. Especially in the postpartum period, these uncertainties and fears experienced by the woman regarding the health status of both her self and her baby could cause fluctuations in mood and increase the level of anxiety.\[32,33\]

Studies conducted during the pandemic period have determined that the levels of fear, panic, anxiety, and uncertainty that women may experience in the postpartum period due to the epidemic disease have increased significantly.\[27,34\] Another study showed that the anxiety and depression levels of women who had just given birth and had children increased significantly during the pandemic.\[25\]

According to the findings of the present study, among the issues that the puerperae wanted to receive support for the most, support in household chores was in the first place (25.1%), which was followed by baby care and feeding (24.3%). It was determined that women demanded support from their husbands the most during this process (65.7%). In the study they conducted, Gulsen and Merih\[17\] reported that mothers wanted support from their husbands the most in the postpartum period.

In the study, it was found that the puerperae needed support at a significant level, but that they could not get adequate support in this regard (p<0.05). Various studies demonstrated that puerperae who were supported by their families had a more comfortable pregnancy, birth, and postpartum period.\[36–38\] It was also determined in a variety of studies conducted that social support positively affected the woman’s adaptation to the role of motherhood in the pregnancy and postpartum period, increased the mother’s sensitivity towards her baby.

### Table 5: Comparison of PSS scores mean according to some characteristics of the participants (n=300)

<table>
<thead>
<tr>
<th>Individual and obstetric features</th>
<th>PSS importance of need average score</th>
<th>Testing and materiality</th>
<th>PSS average score of support received</th>
<th>Testing and materiality</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mean ±SD</td>
<td>KW: 6.3</td>
<td>p&lt;0.05</td>
<td>Mean ±SD</td>
</tr>
<tr>
<td>Age group</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>19–29</td>
<td>159.6</td>
<td>42.6</td>
<td></td>
<td>105.4</td>
</tr>
<tr>
<td>30–40</td>
<td>151.9</td>
<td>45.4</td>
<td>p&lt;0.05</td>
<td>118.7</td>
</tr>
<tr>
<td>41- above</td>
<td>132.6</td>
<td>52.2</td>
<td></td>
<td>102.8</td>
</tr>
<tr>
<td>Education status</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Primary school</td>
<td>139.4</td>
<td>49.3</td>
<td>KW: 7.3</td>
<td>109.5</td>
</tr>
<tr>
<td>Middle school</td>
<td>143.2</td>
<td>47.5</td>
<td>p&gt;0.05</td>
<td>128.4</td>
</tr>
<tr>
<td>High school</td>
<td>148.7</td>
<td>46.3</td>
<td></td>
<td>131.6</td>
</tr>
<tr>
<td>University</td>
<td>151.6</td>
<td>45.7</td>
<td></td>
<td>142.2</td>
</tr>
<tr>
<td>Working status</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Not working</td>
<td>133.6</td>
<td>50.2</td>
<td>t: 2.8</td>
<td>116.4</td>
</tr>
<tr>
<td>Working</td>
<td>156.4</td>
<td>46.1</td>
<td>p&lt;0.01</td>
<td>139.4</td>
</tr>
<tr>
<td>Type of birth</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vaginal birth</td>
<td>145.2</td>
<td>48.6</td>
<td>t: 0.6</td>
<td>123.2</td>
</tr>
<tr>
<td>Cesarean</td>
<td>152.4</td>
<td>42.1</td>
<td>p&gt;0.05</td>
<td>132.1</td>
</tr>
<tr>
<td>Voluntary pregnancy</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>151.6</td>
<td>43.6</td>
<td>t: 1.2</td>
<td>145.2</td>
</tr>
<tr>
<td>No</td>
<td>137.3</td>
<td>48.3</td>
<td>p&gt;0.05</td>
<td>152.4</td>
</tr>
<tr>
<td>Parity</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Primipara</td>
<td>154.6</td>
<td>46.2</td>
<td>t: 1.5</td>
<td>124.6</td>
</tr>
<tr>
<td>Multipara</td>
<td>138.4</td>
<td>50.1</td>
<td>p&gt;0.05</td>
<td>108.4</td>
</tr>
<tr>
<td>Postpartum care training during pregnancy</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>158.2</td>
<td>38.4</td>
<td>t: 2.7</td>
<td>141.2</td>
</tr>
<tr>
<td>No</td>
<td>136.7</td>
<td>46.6</td>
<td>p&lt;0.01</td>
<td>118.6</td>
</tr>
</tbody>
</table>

and facilitated her relations with her close ones, and that support levels varied according to the family structure.[16,17,38,39] In the study they conducted, Gülseren and Merih[17] found the mean score for the importance of support subdimension as 144.40±77.56, and for the received support subdimension as 108.80±80.45, and they determined that mothers needed a significant amount of support, but that the support they received in this regard was not much. It is believed that the fact that the support levels of the mothers in the postpartum period varied in the present study may have stemmed from the changes brought about by the pandemic, and changes in preferences as a result of cultural and individual differences.

In the study conducted by Cheng et al.,[40] it was determined that as the educational levels of the pregnant women and their husbands increased, the social support that the pregnant women received from their husbands increased. In the study conducted by Oztürk et al.,[39] it has been found that the quality of life of mothers has been at a moderate level and they have needed a significant amount of support, but the support provided to them has not been enough. In other studies conducted, it was determined that there was a statistically significant relationship between mothers’ educational levels and received social support.[31–43] Unlike the results of other studies, no significant relationship was found in the present study between educational level and postpartum need for support and the level of received support.

### CONCLUSION

The puerperal period increases anxiety and depression levels, and social support is very important for navigating this period without issues. The need for such support significantly increases during times when uncertainties and obligatory changes brought about by epidemics such as COVID-19 are experienced. Puerperae need significant support in the postpartum period, but the support they receive is often insufficient. Providing social support is crucial for maintaining the health of the mother, the baby, and the family. Nurses/midwives should offer counseling to the woman, the husband, and the family about social support starting from the pregnancy period, and they should be able to identify inadequacies in terms of support provided. In line with the findings of the study, it can be recommended that training and counseling services should be provided to women and their families to help them adapt to the postpartum period, and necessary measures should be taken to improve support systems during this time.

### Table 6: Relationship between BECK anxiety scale mean scores and PSS scores mean

<table>
<thead>
<tr>
<th>Scales</th>
<th>Means±SD</th>
<th>r</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>BECK anxiety scale mean</td>
<td>1.40±0.52</td>
<td>0.067</td>
<td>&gt;0.05*</td>
</tr>
<tr>
<td>PSS scores mean</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Importance of need for PSS</td>
<td>4.50±2.07</td>
<td>0.089</td>
<td></td>
</tr>
<tr>
<td>PSS received support</td>
<td>2.24±2.21</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

SD: Standard deviation; PSS: Postpartum Support Scale; *: Pearson correlation.

### REFERENCES

4. Zeynep Kamil Maternity and Children’s Diseases Health Training and Research Center Clinical Research Ethics Committee granted approval for this study (date: 06.05.2020, number: 84).