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The Level of COVID-19 Fear in Pregnant Women and Affecting Factors

Gebelerin COVID-19 Korkusu Düzeyi ve Etkileyen Faktörler

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ABSTRACT

Objective: The objective of this research is to determine the COVID-19 fear levels of pregnant women during the pandemic period and to reveal the factors that affect their fear levels.

Methods: This descriptive and cross-sectional study was conducted with 440 married pregnant women between August 1st and December 31st, 2020. The research data were obtained using the COVID-19 Fear Scale and the demographic questionnaire prepared in line with the relevant literature.

Results: The mean COVID-19 Fear Scale score of pregnant women was found as 22.25 ± 6.60 (min:7, max:35). COVID-19 fear was found to be higher among the pregnant women, who do not have a child, who stated that they needed psychological support, who were in the 4th-6th month of their pregnancy, who stated that they always feel fear whenever they go out, who restrict home visits, who are afraid of becoming infected by COVID-19, who are concerned about their babies getting harmed by COVID-19, who have had someone among their kith and kin that became infected by COVID-19, who are worried about giving birth in a health institution, who were not able to go to their prenatal check-ups, who are afraid of losing their babies, who are afraid of giving birth prematurely and who are afraid of giving birth to a baby that incurs a disability due to COVID-19.

Conclusion: Up-to-date information should be shared with pregnant women during the pandemic period ensuring that their fear levels are alleviated.

Key Words: Pregnancy, COVID-19, Fear.

ÖZ

Amaç: Bu araştırmanın amacı, pandemide gebelerin COVID-19 korku düzeyini belirlemek ve korku düzeyinde etkili olan faktörleri ortaya çıkarmaktır.

Yöntem: Tanımlayıcı ve kesitsel tipteki çalışma, 440 gebe ile 1 Ağustos- 31 Aralık 2020 tarihleri arasında gerçekleştirilmiştir. Veriler, ilgili literatür doğrultusunda hazırlanmış olan demografik soru formu ve COVID-19 Korkusu Ölçeği ile elde edilmiştir. Verilerin değerlendirilmesinde sayı, yüzde, ortalama, standart sapma, medyan, minimum, maximum, t testi, ANOVA testi, Kruskal Wallis testi ve Mann-Whitney U testi ve Korelasyon analizi kullanılmıştır.

Bulgular: Gebelerin Kovid-19 Korkusu Ölçeği puan ortalaması 22.25 ± 6.60 olarak bulunmuş, gebelerden çocuğu olmayan, psikolojik desteğe ihtiyacı olduğunu belirten, gebeliğin 4-6'ncı ayında olan, dışarı çıktığında her zaman korku yaşayan, ev ziyaretini kısıtlayan, virüse yakalanmaktan korkan, virüsü bebeğine zarar vermesinden endişe eden, çevresinde COVID-19 geçiren birey olan, doğumu sağlık kuruluşunda geçirmekten endişe duyan, doğum öncesi kontrollere gidemeyen, bebeğini kaybetmekten, erken doğum yapmaktan ve bebeğinin engelli olmasından korkanların COVID19 korkusu daha yüksek bulunmuştur.

Sonuç: Bu süreçte güncel bilgilerin gebelerle paylaşarak korku düzeyinin azaltılması sağlanmalıdır.

Anahtar kelimeler: Gebelik, COVID-19, Korku

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Introduction

During the course of the dramatic evolution of the COVID-19 outbreak from a local public health emergency in China to a global pandemic declared by the World Health Organization (WHO) on March 11, 2020, tens of millions of confirmed COVID-19 cases have been reported worldwide. It was announced that COVID-19 had spread all over Turkey on March 23, 2020 (Yassa et al., 2020).

Pregnancy is a physiological condition that predisposes women to respiratory complications of viral infection. Pregnant women are known to be more susceptible to the complications and the adverse outcomes of coronavirus infections, as observed in the case of previously emerged coronavirus outbreaks, namely SARS (Severe Acute Respiratory Syndrome) and MERS (Middle East Respiratory Syndrome). In line with the foregoing, it has been suggested that COVID-19 may significantly increase maternal and fetal risks. On the other hand, it has also been suggested that pregnant women present similar morbidity and mortality rates compared to the general population (Qiao, 2020; Rasmussen et al., 2020; Schwartz and Graham, 2020; Wang et al., 2020).

It should be noted that COVID-19 has psychological effects in addition to its physical effects (Wu et al., 2020). In this context, it has been reported that pregnant women were concerned about getting infected with the SARS virus that emerged in 2003 and transmitting it to the fetus (Dodgson et al., 2010). Similarly, the fact that the characteristics and symptoms of COVID-19 infection in the pregnancy and the fetus are not yet known, implementation of quarantine and social isolation measures to prevent the spread of COVID-19, having taken full-time leave from work, restrictions in follow-ups such as outpatient appointments and routine prenatal follow-ups also create fear and anxiety in pregnant women (Fakari and Simbar, 2020; Wu et al., 2020; Yassa et al., 2020). Additionally, it has been stated that pregnant women have concerns about transportation to the hospital, planning of the delivery, postpartum breastfeeding, newborn care, and their children or elderly relatives, if any (Corbett et al., 2020; Fakari and Simbar, 2020). A review of the current literature has revealed that no studies have been published on the fears of pregnant women about the COVID-19 pandemic just yet. Therefore, it is aimed with this study to determine the fears of pregnant women in connection with the COVID-19 pandemic and the affecting factors.

Material and Method

This descriptive and cross-sectional study was conducted with 440 married pregnant women who applied to the pregnancy outpatient clinic of a public hospital in western Turkey between August 1st and December 31st, 2020. The population of the study consisted of 670 pregnant women who applied to the hospital between August and December 2020. It was desired to reach the entire universe without selecting the sample, but the sample consisted of 440 people because there were pregnant women who did not want to participate in the study.

The study sample included pregnant women, who were pregnant during the pandemic period, who are 18 years of age or older, and who can speak and understand Turkish. The research data were obtained using a questionnaire about individual characteristics, pregnancy characteristics, and relevant measures taken in relation to the pandemic and the COVID-19 Fear Scale prepared in line with the relevant literature. Pregnant women who applied to the pregnant outpatient clinic were asked to answer the questions by giving them questionnaires.

COVID-19 Fear Scale: The COVID-19 Fear Scale was developed by Ahorsu et al. (2020), and its Turkish validity and reliability tests were carried out by Satici et al. (2021). The scale is a 5-point Likert-type scale comprising 7 items and 1 subscale. There are no reverse items in the scale. Answer choices provided to the subjects who participated in the study were as follows; 1: Strongly disagree, 2: Disagree, 3: Undecided, 4: Agree, and 5: Strongly agree. A minimum of 7 and a maximum of 35 points on the scale can be obtained, and high scores indicate that the fear of COVID-19 is high (Ahorsu et al., 2020; Satici et al., 2021). The Cronbach alpha value of the scale was reported as 0.82 in the study by Satici et al. (2021), whereas in this study, it was calculated as 0.89.

The data were analyzed using the SPSS (Statistical Package for Social Sciences) for Windows 24.0 software. Results were reported in terms of numbers, percentages, mean values, standard deviation values, median values, minimum values, maximum values, t-test results, Analysis of Variance (ANOVA) test results, Kruskal Wallis test results, Mann-Whitney U-test results and the results of Correlation analysis.

Ethics Committee Approval: Prior to the data collection process, the study was approved by the Ethics Committee of the University (Date: 22/07/2020, No:12). After the approval of the Ethics Committee permission was taken from the hospital.

The women who were included in the study were informed about the purpose of the study. They were told that participation was voluntary and their written informed consent was taken before the study. "All procedures performed in studies involving human participants were in accordance with the ethical standards of the institutional and/or national research committee and with the 1964 Helsinki declaration and its later amendments or comparable ethical standards."

Results

The distribution of demographic characteristics of the pregnant women included in the study is given in Table 1. The mean age of the pregnant women included in the study was calculated as 28.89 ± 4.69 (min: 18, max: 43). 10.7% of the pregnant women were in the age group of 35 years old and older, 54.3% of them did not have any children, 60% of them stated that they have an income that meets their expenses and 22% of them stated that they think about getting psychological support. It was determined that 56.4% of the pregnant women included in the study were in the 7th-9th month of their pregnancy.

Table 1. Distribution of socio-demographic characteristics

Variables	n	%
Mean age	28.89 ± 4.69 (min:18, max:43)	
Age group	18-34 years old	393 89.3
	35 years old and older	47 10.7
Whether has a child/children	Has a child/children	201 45.7
	Does not have a child	239 54.3
Income status	Insufficient income	92 20.9
	An income that meets the expenses	264 60.0
	An income that is more than sufficient	84 19.1
Whether thinks about getting psychological support	Yes	97 22.0
	No	271 61.6
	Unsure	72 16.4
Month of pregnancy	1-3 months	58 13.2
	4-6 months	134 30.4
	7-9 months	248 56.4
Total	440	100.0

56.4% of the pregnant women included in the study stated that they are always concerned about having to leave home when necessary, 92.7% of them stated that they restrict home visits during the pandemic period, 88.6% of them stated that they are afraid of becoming infected with the virus, and 90.5% of

them stated that they are concerned about the baby getting harmed by COVID-19. Additionally, it was determined that 45% of the pregnant women have/had someone in their immediate vicinity who became infected with COVID-19, 52% of the pregnant women were worried about giving birth in a health institution, and 8.6% of pregnant women were not able to go to prenatal check-ups during the pandemic period.

Table 2. Considerations of pregnant women in the pandemic process

Variables	n	%
Whether concerned about having to leave home when necessary	Always	248 56.4
	Rarely	163 37.0
	Never	29 6.6
Whether restricts home visits during the pandemic period	Yes	408 92.7
	No	32 7.3
Whether afraid of becoming infected with COVID-19	Yes	390 88.6
	No / Undecided	50 11.4
Whether concerned about the baby getting harmed by COVID-19	Yes	398 90.5
	No / Undecided	42 9.5
Whether have/had someone among kith and kin that became infected with COVID-19	Yes	198 45.0
	No	242 55.0
Whether worried about giving birth in a health institution	Yes	229 52.0
	No	118 26.8
	Unsure	93 21.2
Whether was able to go to prenatal check-ups	No	38 8.6
	Yes. went to all prenatal check-ups	235 53.4
	Yes. went only to compulsory prenatal check-ups	167 38.0
	Unsure	17 3.9
Whether afraid of losing the baby due to COVID-19	Yes	277 63.0
	No	163 37.0
Whether afraid of giving a premature birth due to COVID-19	Yes	256 58.2
	No	184 41.8
Whether afraid of giving birth to a baby who sustains a disability/impairment due to COVID-19	Yes	265 60.2
	No	175 39.2
	Total	440 100.0

Furthermore, 63% of the pregnant women stated that they were afraid of losing their babies due to the pandemic process, 52.8% of them stated that they were afraid of giving a premature birth due to

COVID-19, and 60.2% of them stated that they were afraid of giving birth to a baby who sustains a disability/impairment due to COVID-19 (Table 2).

The mean COVID-19 Fear Scale Score obtained by the pregnant women was calculated as 22.25 ± 6.60 (min:7. max:35) (Table 3).

Table 3. The mean COVID-19 Fear Scale score obtained by the pregnant women

	Mean	S.d.	min	max
COVID-19 Fear Scale	22.25	6.60	7	35

The level of COVID-19 fear experienced by the pregnant women who do not have any child, the pregnant women who stated that they think about getting psychological support and the pregnant women, who are in the 4th-6th month of pregnancy was found to be higher ($p < 0.05$) (Table 4).

Table 4. Comparison of mean COVID-19 Fear Scale scores by socio-demographic characteristics

Variables	n	Mean±sd	Test p
Age group	18-34 years old	393 22.31±6.65	t: 0.518 p: 0.605
	35 years old and older	47 21.78±6.28	
Whether has a child/children	Has a child/children	201 21.35±6.33	t: -2.640 p: 0.009
	Does not have a child	239 23.01±6.74	
Income status	Insufficient income	92 22.66±6.39	F: 1.495 p: 0.225
	An income that meets the expenses	264 21.83±6.77	
	An income that is more than sufficient	84 23.15±6.26	
Whether thinks about getting psychological support	Yes ¹	97 24.25±8.15	F: 11.291 p: 0.000 1>2.3
	No ²	271 21.18±5.84	
	Unsure ³	72 23.97±6.07	
Month of pregnancy	1-3 months ¹	58 22.67±6.99	F: 4.401 p: 0.013 2 > 1.3
	4-6 months ²	134 23.52±7.08	
	7-9 months ³	248 21.47±6.14	

F: ANOVA t: t-test

The level of COVID-19 fear experienced by pregnant women, who are always concerned about having to leave home when necessary, who restrict home visits, who are afraid of becoming infected with COVID-19, who are concerned about the baby getting harmed by COVID-19, who are worried about giving birth in a health institution, who have/had someone among their kith and kin that

became infected with COVID-19, who were not able to go to prenatal check-ups, who are afraid of losing their babies, who are afraid of giving a premature birth, and who are afraid of giving birth to a baby who sustains a disability/impairment due to COVID-19 was found to be higher ($p < 0.05$) (Table 5).

Table 5. Comparison of mean COVID-19 Fear Scale scores by considerations of the pregnant women on the pandemic process

Variables	n	Mean±sd	Test p
Whether concerned about having to leave home when necessary	Always ¹	248 24.02±6.60	X ² : 50.560 p: 0.000 1 > 2.3
	Rarely ²	163 20.41±5.82	
	Never ³	29 17.55±5.71	
Whether restricts home visits during the pandemic period	Yes	408 22.46±6.49	t: 2.194 p: 0.029
	No	32 19.77±7.61	
Whether afraid of becoming infected with COVID-19	Yes	390 23.10±6.21	t: 2.365 p: 0.000
	No / Undecided	50 16.35±5.11	
Whether concerned about the baby getting harmed by COVID-19	Yes	398 22.78±6.52	t: 3.446 p: 0.000
	No / Undecided	42 17.32±4.87	
Whether have/had someone among kith and kin that became infected with COVID-19	Yes	198 23.06±6.88	t: 2.313 p: 0.021
	No	242 21.60±6.30	
Whether worried about giving birth in a health institution	Yes ¹	229 24.19±6.63	F: 14.903 p: 0.000 1>2.3
	No ²	118 19.50±6.77	
	Unsure ³	93 23.44±5.24	
Whether was able to go to prenatal check-ups	No	38 24.18±7.94	
	Yes, went to all prenatal check-ups	235 21.61±6.33	F: 3.193 p: 0.042 1>2.3
	Yes, went only to compulsory prenatal check-ups	167 22.73±7.94	
Whether afraid of losing the baby due to COVID-19	Yes	277 23.42±6.68	t: 4.957 p: 0.000
	No	163 20.27±5.99	
Whether afraid of giving a premature birth due to COVID-19	Yes	256 23.85±6.33	t: 6.229 p: 0.000
	No	184 20.03±6.35	
Whether afraid of giving birth to a baby who sustains a disability/impairment due to COVID-19	Yes	265 24.22±6.10	t: 8.251 p: 0.000
	No	175 19.28±6.23	

F: ANOVA test. t: t-test. X²: Kruskal Wallis test

Discussion

88.6% of the pregnant women stated that they are afraid of becoming infected with the virus, and 90.5% of them stated that they are concerned about the baby getting harmed by COVID-19. 45% of the pregnant women have/had someone in their immediate vicinity that became infected with COVID-19 and 52% of them were worried about giving birth in a health institution. 8.6% of pregnant

women stated that they were not able to go to prenatal check-ups during the pandemic period. 63% of the pregnant women stated that they were afraid of losing their babies due to COVID-19, 52.8% of them stated that they were afraid of giving a premature birth due to COVID-19, and 60.2% of them stated that they were afraid of giving birth to a baby who sustains a disability/impairment due to COVID-19 (Table 2). It is reported in several studies available in the literature that the fact that characteristics and symptoms of COVID-19 infection in the pregnancy and the fetus are not yet known, implementation of quarantine and social isolation measures to prevent the spread of COVID-19, having taken full-time leave from work, restrictions in follow-ups such as outpatient appointments and routine prenatal follow-ups also create fear and anxiety in pregnant women (Fakari and Simbar, 2020; Wu et al., 2020). It has also been stated that pregnant women have concerns about transportation to the hospital and planning the delivery (Corbett et al., 2020; Fakari and Simbar, 2020). It was found in a study conducted on pregnant women in Israel that pregnant women had concerns about other family members becoming infected with COVID-19, about being in public places, pregnancy, fetus, and delivery (Taubman et al., 2020). In another study, it was reported that 67.8% of pregnant women stated that they think that their pregnancies would be adversely affected by becoming infected with COVID-19, 83.2% of them stated that they think that they would transmit COVID-19 to their babies were they infected with COVID-19 and 83.2% of them stated that they think their babies would be adversely affected were they infected with COVID-19 (Hossain et al., 2020). Furthermore, it was reported in a study conducted by Tian that 41.6% of the pregnant women stated that they were not able to go to their prenatal check-ups on a timely manner or they could not go at all. and that 98.2% of them stated that they wear a mask when going out (Tian, 2020). In the study of Yassa et al. (2020), it was reported that 76% of the pregnant women stated that they were not aware of the fact that COVID-19 may cause birth defects and 64.5% of them stated that they were not aware of the fact that COVID-19 may cause premature birth (Yassa et al., 2020). In another study, 47% of the women who participated in the study were found to fear that COVID-19 could induce fetal structural anomalies and 51% of them were found to fear of premature birth (Mappa et al., 2020).

The mean COVID-19 Fear Scale Score obtained by the pregnant women was found as 22.25 ± 6.60 (Table 3), which was interpreted as a medium-high fear level. It is noteworthy that several other empirical studies and preliminary reports on the psychological consequences of the pandemic on pregnant women also pointed out to the same finding. that is the fact pregnant women experience significantly higher levels of stress and anxiety during the pandemic (Berthelot et al., 2020; Corbett et al., 2020; Durankuş and Aksu, 2022; Lebel et al., 2020; Masjoudi et al., 2020; Milne et al., 2020; Nanjundaswamy et al., 2020; Saccone et al., 2020). Saccone et al. revealed that the COVID-19 outbreak had a moderate to severe psychological impact on pregnant women in Italy (Saccone et al., 2020). Corbett et al (2020) demonstrated that 50.7% of them have started to often worry about their health status during the pandemic (Corbett et al., 2020).

It was reported in another study that most of the women included in the study (84.6%) were fearing COVID-19 infection at a moderate fear level (Hossain et al., 2020). In the study of Yassa et al. (2020), it was determined that 80% of pregnant women included in the study were worrying about COVID-19 (Yassa et al., 2020). In a study conducted in Nigeria, it was found that 37.5% of the pregnant women included in the study experienced COVID-19-related anxiety (Nwafor et al., 2020). In a study conducted in Qatar on women who are in the perinatal period. it was determined that 34.4% of the women included in the study had a high level of anxiety and were found to have stated that there was a significant increase in their anxiety levels compared to before the pandemic (Farrel et al., 2020). Another study revealed that 51.3% of the women included in the study had mild to moderate fear resulting in a medium level mean COVID-19 Fear Scale score (Din et al., 2020). All of these results indicate that women. who are pregnant during the pandemic period. experience similar levels of anxiety irrespective of the fact that they reside in different countries.

The level of COVID-19 fear experienced by pregnant women who do not have any child. the pregnant women who stated that they think about getting psychological support and the pregnant women. who are in the 4th-6th month of pregnancy. was found to be higher ($p < 0.05$) (Table 4). Similar to the findings of this study. In a study conducted by Taubman et al. (2020) on Israeli pregnant women was found that pregnant women with psychological distress had higher COVID-19-related anxiety

(Taubman et al., 2020). It was determined in the study conducted by Taubman et al. (2020) that pregnant women who are in the advanced gestational week had higher anxiety levels (Taubman et al., 2020). which is contrary to the finding reported in Liu et al.'s study (2020), who have found higher levels of anxiety in pregnant women who are in the early stages of pregnancy (Liu et al., 2020). In the study conducted in Nigeria, it was determined that pregnant women who are in their last trimester had higher anxiety levels originating from COVID-19 compared to pregnant women who are in other trimesters (Nwafor et al., 2020). which is contrary to the finding reported in the study by Mappa et al. (2020), in which it was determined that the gestational week was not effective on anxiety due to COVID-19 (Mappa et al., 2020).

COVID-19 fear of pregnant women, who are concerned about having to leave home when necessary, who restrict home visits during the pandemic period, who are afraid of becoming infected with COVID-19, who are concerned about the baby getting harmed by COVID-19, who are worried about giving birth in a health institution, who have/had someone among kith and kin that became infected with COVID-19, who are afraid of losing the baby due to COVID-19, who are afraid of giving a premature birth due to COVID-19 and who are afraid of giving birth to a baby who sustains a disability/impairment due to COVID-19, was found to be higher ($p < 0.05$) (Table 5). Among the articles with similar findings to this study, the study conducted by Ahorsu et al. (2020) on pregnant women and their spouses, the COVID-19 fear of pregnant women was found to be significantly associated with higher preventive COVID-19 behaviors (Ahorsu et al., 2020). In another such study conducted on pregnant women, it was found that anxiety over own health and that of the fetus may have detrimental effects on maternal and fetal well-being. Empirical evidence suggests that prenatal stress is related to higher rates of adverse birth outcomes, such as preterm delivery and low birth weight (Tomfohr-Madsen et al., 2019; Yedid Sion et al., 2016). It was found in a study conducted on pregnant women in Israel that pregnant women, who are afraid of becoming infected with COVID-19, who are concerned about their babies getting harmed by COVID-19, who have had someone among their kith and kin who became infected by COVID-19, who go to the healthcare institutions for their prenatal check-ups. and who are worried about

the health of their babies were found to have higher COVID-19-related anxieties (Taubman et al., 2020). Changes in the frequency and the routine of regular check-ups, lack of pregnancy-related peer-support networks, fear for the health and the life of the fetus, ban on the presence of birth support persons and altered expectations related to perinatal and postnatal care have all been identified as important additional sources of stress for pregnant women, leading to a plausible assumption that the COVID-19-related anxiety might be particularly high in the population of pregnant women (Ali and Feroz, 2020; Fakari and Simbar, 2020; Matvienko-Sikar and Meedya, 2020; Nanjundaswamy et al., 2020; Thapa et al., 2020; Zeng et al., 2020).

Conclusion and Recommendations

In conclusion, it was determined in this study, the fear levels of pregnant women were above average and that the pregnant women, who do not have children, who are in the second trimester of their pregnancy, who stated that they need psychological support, who stated that they take preventive measures (visitor restriction, use of protective equipment, etc.) in order to prevent the transmission of COVID-19 to the baby and who stated that they fear that COVID-19 will harm their baby, have higher levels of fear due to COVID-19.

The recommendations in the light of these conclusions are as follows:

- Adequate online counseling sessions by obstetricians and mental health professionals are needed to eliminate these false perceptions and relieve psychological stress.
- It can improve prenatal care and is helpful in promoting health during pregnancy in the critical outbreak of disease.

Limitations of the Study

The characteristics and symptoms of COVID-19 infection on the pregnancy and the fetus are not yet known, implementation of quarantine and social isolation measures to prevent the spread of COVID-19, having taken full-time leave from work, restrictions in follow-ups such as outpatient appointments and routine prenatal follow-ups also create fear and anxiety in pregnant women. A review of the current literature has revealed that no studies have been published on the fears of pregnant women about the COVID-19 pandemic just yet, although there are a limited number of studies available in the literature, in which anxiety and depression situations in connection with the COVID-19 pandemic has

been studied. The strength of this study is the lack of a large sample study investigating the fear of COVID-19 in pregnant women in Türkiye. In addition, the hospital where the study was conducted is a state hospital serving women at many different socioeconomic and cultural levels. For this reason, the results can be generalized to pregnant women in Turkish society. As the limitation of the research, the rate of participation in the study was limited because pregnant women wanted to keep their hospital stay short due to the pandemic. The results of the present study may not be generalizable to all pregnant women because of sociocultural differences.

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Ethics Committee Approval: Prior to the data collection process, the study was approved by the Ethics Committee of Okan University (Date: 22/07/2020 No: 12).

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What did the study add to the literature?

- Most of the pregnant women stated that they are afraid of becoming infected with the virus and concerned about the baby getting harmed by COVID-19.
- More than half of the pregnant women stated that they were afraid of losing their babies due to the pandemic process, afraid of giving a premature birth and afraid of giving birth to a baby who sustains a disability/impairment due to COVID-19.
- The pregnant women, who do not have children, who are in the second trimester of their pregnancy, who stated that they need psychological support, who stated that they take preventive measures (visitor restriction, use of protective equipment, etc.) in order to prevent the transmission of COVID-19 to the baby and who stated that they fear that COVID-19 will harm their baby, have higher levels of fear due to COVID-19.

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