

## THE RELATIONSHIP BETWEEN CORONAVIRUS FEAR AND ANXIETY IN PREGNANT WOMEN DURING COVID-19 OUTBREAK

### COVID-19 Salgını Sürecinde Gebe Kadınlarda Coronavirüs Korkusu ile Anksiyete

#### Arasındaki İlişki

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#### ABSTRACT

The aim of this research is to determine the relationship between coronavirus (COVID-19) fears and anxiety levels of pregnant women. The research was conducted in descriptive and cross-sectional design with 461 pregnant women between 15.10.2020-15.11.2020. Data were collected using personal information form, COVID-19 Fear Scale, and Beck Anxiety Scale. There was no statistically significant difference between the women's occupation, number of pregnancies, family structure, and income status, and the total mean scores of COVID-19 fear ( $p>0.05$ ). While the coronavirus fear average score of pregnant women ( $21.29\pm 6.08$ ) was above the medium level, it was found to be at a moderate level for anxiety ( $15.85\pm 9.80$ ). It was determined that there was a significant positive difference between the COVID-19 fear and anxiety in pregnant women ( $r=.399$ ,  $p<0.01$ ). It can be recommended to provide telephone consultation service to pregnant women during the pandemic to reduce their fear and anxiety levels and inform them using mass communication methods.

**Keywords:** Anxiety, COVID-19, Fear, Pregnant women.

#### ÖZ

Bu araştırmanın amacı gebelerin koronavirüs (COVID-19) korkuları ile anksiyete düzeyleri arasındaki ilişkiyi belirlemektir. Araştırma, 15.10.2020-15.11.2020 tarihleri arasında 461 gebe ile tanımlayıcı ve kesitsel desende yapılmıştır. Veriler kişisel bilgi formu, COVID-19 Korku Ölçeği ve Beck Anksiyete Ölçeği kullanılarak toplanmıştır. Kadınların mesleği, gebelik sayısı, aile yapısı ve gelir durumu ile COVID-19 korku toplam puan ortalamaları arasında istatistiksel olarak anlamlı bir fark görülmemiştir ( $p>0.05$ ). Gebelerin korona virüs korku ortalama puanı ( $21.29\pm 6.08$ ) orta düzeyin üzerindeyken, kaygı için orta düzeyde ( $15.85\pm 9.80$ ) bulunmuştur. Gebelerde COVID-19 korkusu ile anksiyete arasında pozitif yönde anlamlı fark olduğu belirlenmiştir ( $r=.399$ ,  $p<0.01$ ). Pandemi döneminde gebelerin korku ve kaygı düzeylerini azaltmak için telefonla danışma hizmeti verilmesi ve kitle iletişim yöntemleri kullanılarak bilgilendirilmeleri önerilebilir.

**Anahtar kelimeler:** Anksiyete, COVID-19, Gebe kadınlar, Korku.

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## INTRODUCTION

COVID-19 is a type of virus within the beta coronavirus family in which SARS-CoV and MERS-CoV are included. In 2019, after a series of reports of 'viral pneumonia' cases in Wuhan, People's Republic of China, it quickly affected the entire world in a short time, leading to a global epidemic declaration, namely, "pandemic" (World Health Organization, 2021). COVID-19 is a public health emergency of international concern and poses a threat to the mental health of pregnant women (Yue et. al., 2020). Pregnancy as a sensitive period of a woman's life can be affected by various psychological factors that can have adverse effects on the woman, her fetus and future baby. Since COVID-19 is a new phenomenon with limited information available, it may have adverse psychological effects on pregnant women (Effati-Daryani et. al., 2020).

Outbreaks pose a challenge to psychological resilience and can lead to high levels of stress (Çicek & Almalı, 2020). One of these factors affecting pregnant women's mental health is the "uncertainty situation" associated with catastrophic events or natural disasters. The coronavirus pandemic causes stress and anxiety for pregnant women globally (Salehi, Rahimzadeh, Molaei, Zaheri, & Esmaelzadeh-Saeieh, 2020). Pregnant women are at anxiety risk, as well as mental and physical changes during pregnancy (Mappa, Distefano, & Rizzo, 2020). It is important to conduct studies on psychological factors such as stress and anxiety and depression among pregnant women (Sanaeinasab et al., 2020). With the hormonal changes that typically occur during pregnancy, the feeling that something wrong will happen puts a heavy burden on pregnant women and increases their anxiety levels. Fear of infecting the baby during the pandemic, the idea of being in the risk group due to pregnancy, and restrictions because of the pandemic (curfew, inability to access health services, etc.) increase anxiety levels during pregnancy (Türen & Kılıç, 2020). The fast-changing process with the bans on partners and visitors that occur with the pandemic, and the high uncertainty that women may face in the birthing process, can lead to increased anxiety among pregnant women about giving birth (Moyer, Compton, Kaselitz, & Muzik, 2020). Another concern cause is the need for pregnant women to receive regular care from maternity services and the virus infection risk in this population (Julia, 2020). Early data in pregnant women with COVID-19 indicate that admissions are made to the intensive care unit at the same rate as in the non-pregnant population; however, preterm and cesarean delivery increase the risk (Tanrıverdi, Gürsoy, & Kaymak, 2020).

In a study conducted with pregnant women during the pandemic, it was seen that pregnant women have a higher incidence of COVID-19 phobia than other women. In addition, the same study determined that pregnant women were affected statistically significantly in the somatic and economic sub-dimensions of phobia compared to non-pregnant women (Karkin, Sezer, Şen, & Duran, 2021). In a study conducted with 177 pregnant women who applied to the outpatient clinic for routine pregnancy control, to determine their anxieties that may be related to COVID-19, the anxiety level of the pregnant women was found to be 44.6%. In the same study, the possibility of not being with his/her family at the time of birth and the fear of dying due to COVID-19 were found to be statistically significantly associated with high anxiety levels (Türen & Kılıç, 2020). The results of another study show that coronavirus pandemic has a significant potential for creating anxiety, adversity and fear, which has a negative emotional effect on pregnant people (Sahin & Kabakci, 2021). Güler and Hatırnaz have detected that that pregnant women admitted after announcement of the first COVID-19 case and containment measures in Turkey had higher levels of anxiety compared to women admitted before containment measures (Güler & Hatırnaz, 2020).

The pregnant women have been determined to state that they had difficulty in controlling their lives, in which they were in sadness, fear and helplessness, and they were under pressure during the pandemic process (Juan et al., 2020). Antenatal care procedures have changed in many countries such as our country due to the pandemic. Non-routine changes in the pandemic process, rapidly changing contradictory comments in the media, sensational news cause various psychological conditions in the whole population and pregnant women.

Therefore, it is important to conduct studies on psychological factors such as stress and anxiety and depression among pregnant women. In light of the importance of female mental health in pregnancy during the COVID-19 process, this study was conducted on pregnant women affected by the pandemic, in order to provide a strategy for early diagnosis and interventions, support psychological harmony, prevent complications of emotional disturbances, improve prenatal care services, and evaluate COVID-19 fear and anxiety in pregnancy and thus contribute to the literature.

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## **MATERIAL AND METHOD**

### **Study design**

This research was done using a descriptive and cross-sectional method and conducted on 461 pregnant women in the two cities in eastern Turkey between 15.10.2020-15.11.2020 dates.

### **Data Collection Tools**

#### **Personal Information Form**

The form prepared by the researcher comprises eight questions: Age, family structure, education level, place of residence, profession and income, number of pregnancies, chronic illness.

#### **Beck Anxiety Scale (BAS)**

Beck et al. (1988) developed the scale. Ulusoy et al. (1993) performed the validity and reliability of the scale in Turkish. BAS evaluates the frequency of anxiety symptoms experienced by the person. The scale consists of twenty-one items. Each item questions how extent the distress feeling has disturbed the individual for the week. Scoring is between 0-3 for each item. The range of points of the scale varies between 0 and 63. The higher the score obtained from the scale indicates the severity of the anxiety experienced by the individual. Beck's anxiety ratings are 8-15 points for mild, 16-25 points for moderate, 26-63 points for severe anxiety (Beck, Epstein, Brown, & Steer, 1988; Ulusoy, Sahin, & Erkmén, 1998). The Cronbach's alpha internal consistency coefficient was found as 0.90 in the original scale. In this study, BAS's Cronbach's alpha internal consistency coefficient was found as 0.90.

#### **Coronavirus (COVID-19) Fear Scale**

The original scale was developed by Ahorsu et al. (2020). Bakioğlu et al. (2020) adapted the scale's validity and reliability in the Turkish language. The scale evaluating the coronavirus (COVID-19) fear consists of seven items and has only one dimension. The scale is a five-point Likert-type grading in "Strongly disagree" (1 point), "Disagree" (2 points), "Undecided" (3 points), "Agree" (4-points), "Strongly agree" (5 points). The scale's total point varies between 7 and 35. There is no reverse item on the scale. The total score obtained from all the scale items reflects the level of coronavirus (COVID-19) fear experienced by the individual. A high score on the scale shows a high coronavirus fear level (Ahorsu et al., 2020; Bakioğlu, Korkmaz, & Ercan, 2020). The Cronbach's alpha internal consistency coefficient

was found as 0.82 in the original scale in this study, the Cronbach alpha internal consistency coefficient of the COVID-19 fear scale was found 0.87.

### **Collection of Data**

In this descriptive and cross-sectional study, no sample selection was made. The research included 461 volunteer pregnant women through the snowball sampling method between 15.10.2020-15.11.2020. Questionnaires were prepared using Google forms, and then these forms were sent to individuals via WhatsApp and mail. "Questions About Sociodemographic characteristics of Individuals," "Beck Anxiety Scale," and "Coronavirus Fear Scale" were used in data collection.

### **Evaluation of Data**

The data obtained in the study were evaluated using the Statistical Package for the Social Sciences 25.0 program. In the analysis of data, descriptive features such as number, percentage, and average were used. Compliance of the data with normal distribution was evaluated through the values of Skewness and Kurtosis. Beck Anxiety Scale (skewness:.640, kurtosis:.200) and the Coronavirus Fear Scale (skewness:-.320, kurtosis:-.453) were found normally distributed. Pearson correlation analysis was used to examine the relationship between anxiety and fear of coronavirus.

### **Ethics approval and consent for participate**

In agreement with the Declaration of Helsinki, the proposal was approved by the Muş Alparslan University Institutional Ethics Committee (Date; 13.10.2020, Number; E-10879717-050.01.04-11800). The participants of the study were informed about the research purpose, the method, their time to spend for the research, that the investigation would never harm participants, and that the participation was absolutely voluntary. Their consent was obtained by their marking the check box in the questionnaire form.

## **RESULT**

When the descriptive feature distribution of pregnant women in the study was examined, it was determined that the participants' average age was  $28.27 \pm 5.12$  years, 79.2% had nuclear families, 33.6% were primary school graduates, 35.1% lived in a metropolitan area, 74.8% were housewives, 90.7% did not have any chronic disease, and 54.4% had moderate economic status (Table 1).

When the fear of COVID-19 and anxiety levels were examined according to the descriptive characteristics of pregnant women, a statistically significant difference was found between pregnant women's age groups and the fear of COVID-19 and anxiety levels ( $p<0.05$ ). When the individuals' mean scale scores were compared according to their ages, the coronavirus fears and anxiety levels of individuals aged 34 and over were higher than other age groups (Table 2).

When the COVID-19 fear and anxiety average scores of the individuals were compared according to their education level, the university graduates' COVID-19 fear and anxiety total scores were found lower than the other groups. A statistically significant difference was found between the educational status and the mean scores of COVID-19 and anxiety ( $p<0.05$ ) (Table 2). Anxiety total scores of individuals with two or fewer pregnancies were lower than the other groups. A statistically significant difference was found between the number of pregnancies and the anxiety total score averages ( $p<0.05$ ) (Table 2). Besides, a statistically significant difference was found between the chronic disease status and the mean overall scores of COVID-19 and Anxiety ( $p <0.05$ ) (Table 2). Women with chronic disease had higher COVID-19 fear and anxiety levels than those without the chronic disease (Table 2).

There was no statistically significant difference between the women's occupation, number of pregnancies, family structure, and income status, and the total mean scores of COVID-19 fear ( $p>0.05$ ) (Table 2) There was no statistically significant difference between the family structure and income status of the participants and their anxiety total score averages ( $p>0.05$ ) (Table 2).

When the total mean scores of the Anxiety and Coronavirus Fear Scale of the pregnant women were examined, while the anxiety score was  $15.85\pm 9.80$  (medium level), Coronavirus fear was  $21.29\pm 6.08$  (above medium level) (Table 3).

It was determined that there was a moderately significant positive correlation between the total mean scores of COVID-19 fear and the anxiety of pregnant women ( $r=.399$ ,  $p=0.000$ ). In this study, it was found that when the Covid-19 fear level of pregnant women increased, their anxiety level also increased ( $p=0.000$ ) (Table 3).

**Table 1.** Descriptive Features of Pregnant Women

Variables	(n=461)	
	Number	%
<b>Age</b>		
18-25	136	29.5
26-33	245	53.1
34 and above	80	17.4

<b>Family structure</b>		
Nuclear	368	79.2
Extended	93	20.8
<b>Education</b>		
Literate	49	10.6
Primary	155	33.6
Secondary	112	24.4
University	145	31.4
<b>Where you live</b>		
Metropolitan	162	35.1
City	137	29.7
District	109	23.6
Village_town	53	11.6
<b>Occupation status</b>		
Housewife	345	74.8
Officer	42	9.2
Teacher	38	8.2
Other	36	7.8
<b>Chronic illness</b>		
Yes	43	9.3
No	418	90.7
<b>Income status</b>		
Good	179	6.7
Medium	251	54.4
Bad	31	38.9

**Table 2.** Comparison of Anxiety and COVID-19 Fear Score Averages According to Descriptive Features of Pregnant Women

<b>Descriptive Features</b>	<b>COVID-19 Fear Scale</b>	<b>Anxiety</b>
	$\bar{X} \pm SS$	$\bar{X} \pm SS$
<b>Age</b>		
18-25	20.19±5.94	15.18±9.95
26-33	21.31±6.08	15.39±9.83
34 and above	23.08±5.96	18.38±9.15
<b>F-value</b>	5.794	3.287
<b>p-value</b>	<b>0.003</b>	<b>0.038</b>
<b>Family Structure</b>		
Nuclear	21.43±5.98	15.44± 9.62
Extended	20.72±6.46	17.48±10.37
<b>t-value</b>	1.011	-1.800
<b>p-value</b>	0.312	0.073
<b>Education level</b>		
Literate	20.79±6.59	16.95±9.72
Primary	21.57±6.18	17.97±10.28
Secondary	22.37±5.34	16.25±9.56
University	20.31±6.23	12.90±8.83
<b>F-value</b>	2.669	7.351
<b>p-value</b>	<b>0.047</b>	<b>0.000</b>
<b>Number of pregnancies</b>		
1-2	21.01±6.25	14.62±10.36
3-4	21.90±5.94	16.89±10.25
5 and above	21.02±6.08	22.00±8.90
<b>F-value</b>	1.174	11.151
<b>p-value</b>	0.310	<b>0.000</b>
<b>Occupation status</b>		

Housewife	21.51±6.00	16.45±9.85
Officer	20.42±6.06	11.61±8.31
Teacher	20.68±6.83	17.34±9.77
Other	20.83±6.22	13.47±9.66
<b>F-value</b>	0.622	4.120
<b>p-value</b>	0.601	<b>0.007</b>
<b>Income status</b>		
Good	21.34±6.15	15.88±9.93
Medium	21.07±6.04	15.52±9.64
Bad	22.70±6.02	18.32±10.30
<b>F-value</b>	1.006	1.128
<b>p-value</b>	0.366	0.325
<b>Chronic illness</b>		
<b>Yes</b>	23.25±6.41	23.27±10.51
<b>No</b>	21.08±6.02	15.08±9.41
<b>t-value</b>	2.313	2.197
<b>p-value</b>	<b>0.021</b>	<b>0.033</b>

\* p <0.05 significant.

**Table 3.** The Relationship Between the Mean Scores of COVID-19 Fear and Anxiety of the Pregnant Women

Scales	Coronavirus (COVID-19) Fear (21.29±6.08)
<b>Anxiety</b> (15.85±9.80)	r=.399* <b>p=0.000</b>

\* p <0.01 significant.

## DISCUSSION

Pregnancy is a process that makes women vulnerable to viral infections and causes partial suppression in the immune system. Therefore, the COVID-19 outbreak may cause serious health problems in pregnant women (Özcan, Elkoca, & Yalçın, 2020). It is stated that COVID-19 seen in pregnancy may progress to severe disease, lead to maternal and neonatal morbidity, and even cause intensive care needs (Keskin et al., 2020). Depending on these reasons, pregnant women may be afraid of getting infected COVID-19 and experience anxiety during the pandemic process. The current research was carried on to determine the correlation between pregnant women's COVID-19 fears and their anxiety levels. While the study focused on the relationship between COVID-19 fear and anxiety, it also examined this relationship in respect of some socio-demographic data. Due to few studies conducted on the fear of COVID-19, the matter at hand has been discussed with the literature.

The study found older age pregnant women to have higher COVID-19 fear (p<0.05, Table 2). It has been determined that maternal and fetal risks increase in pregnant women over 35 years of age. While COVID-19 can cause severe acute respiratory syndrome at any age, the people most frequently affected by this syndrome have been middle-aged and older individuals (Altın, 2020). It can be suggested that these reasons effectively increase the fear of

COVID-19 in pregnant women. However, no study examining the relationship between the fear of COVID-19 and age has been found in the literature. Likewise, the study found pregnant women of older age had higher anxiety levels ( $p<0.05$ , Table 2) during the COVID-19 period. Moyer et al. (2020) found a significant difference between pregnancy-related anxiety during the COVID-19 process and it was determined that anxiety increased as age decreased (Moyer et al., 2020). Preis et al. (2020) stated a significant difference between severe anxiety symptoms and advanced maternal age during the COVID-19 process (Preis, Mahaffey, Heiselman, & Lobel, 2020). Türen and Kılıç (2020) found no significant relationship between women's anxiety level and their ages during the COVID-19 pandemic process. Furthermore, Mappa et al. (2020) have found no significant difference between anxiety level and age. The findings of the study differs from the literature. The reason for the difference could be because Mappa et al.'s (2020) and Moyer et al.'s studies (2020) were conducted in a different culture. Türen and Kilic's study (2020) was conducted with pregnant women who applied to the obstetric outpatient clinic and different measurement tools were used in this study (Mappa et al., 2020; Moyer et al., 2020; Türen & Kılıç, 2020).

In the study, it was found that the higher was the education level of pregnant women, the lower was the fear of COVID-19 ( $p<0.05$ , Table 2). So far, no study in the literature examining the relationship between the fear of COVID-19 during pregnancy and education level has been encountered. It has been reported in studies conducted with different research groups that education level affects the coronavirus fear, therefore while the education level increases, the fear of COVID-19 decreases (Bakioğlu et al., 2020; Hossain et al., 2020; Kasapoğlu, 2020). Chen et al. (2020) has reported the psychological problem risk to be higher in pregnant women who have less than a high-school education (Chen, Li, Zhang, Zhao, & Yu, 2020). In the literature, it has been stated that as the education level of pregnant women increases, their effectiveness on their own life increases, their self-esteem increases and the rate of depression decreases (Arslan et al., 2011). Similarly, it has been suggested that individuals with higher levels of education have lower levels of trait anxiety and have developed more effective skills in coping with stress (Can & Çakır, 2012). In the study, it was determined that there was a significant difference in the pregnant women, and individuals having higher education levels were found to have lower anxiety levels ( $p<0.05$ , Table 2). Kahyaoğlu and Küçükkaya (2020) have stated that anxiety risk is higher in pregnant women with low education level (Kahyaoğlu & Küçükkaya, 2020). Moyer et al. (2020) have expressed a relationship between the anxiety levels and education levels of the pregnant women during the coronavirus period. It has been stated that anxiety increases as the level of

education decreases (Moyer et al., 2020). Türen and Kılıç (2020) have found that there is no significant relationship between the anxiety level and the education levels of pregnant women during the COVID-19 pandemic. While our research findings show resemblance to those of Kahyaoğlu and Küçükkaya (2020) and Moyer et al. (2020) they differ from the study of Türen and Kılıç (Moyer et al., 2020; Türen & Kılıç, 2020). The reason for the difference is thought to be due to the selection of pregnant women among those who came to the hospital and the different design of Türen and Kılıç's research.

In the study, a significant difference was determined between the anxiety levels and previous pregnancy numbers of pregnant women, and the ones with higher number of pregnancies had higher anxiety levels ( $p < 0.05$ , Table 2). In the literature, no study examining the relationship between the number of pregnancies and the anxiety levels during the COVID-19 pandemic has been encountered. The type of pneumonia caused by COVID-19 disease is accepted to be highly contagious (Samancı, 2020). It is thought that, this very infectious disease may cause an increase in pregnant women's fear both to transmit the disease to their relatives and catch a virus from the environment. One of the main reasons for increasing anxiety during the pandemic period is the fear of spreading COVID-19 to others or loved ones (Colizzi et al., 2020). Therefore, it can be considered that as the number of children increases, pregnant women become more anxious. In a study conducted with nurses, it was stated that having a child, similar to the research finding, affects the level of anxiety in the Covid-19 process. (Sakaoğlu, Orbatu, Emiroglu, & Çakır, 2020).

It was observed that the women's occupational status affected their anxiety levels during the COVID-19 pandemic process, and the anxiety level of teachers was higher than the other groups ( $p < 0.05$ , Table 2). As a result of the schools' closures and remote teaching applications during the pandemic process, teachers have been often at home, so their social interactions have decreased. It is thought that this situation is the reason that teachers' anxiety level is significantly higher than other groups. Housewives mostly show depressive symptoms during pregnancy (Arslan et al., 2011). In the literature, a limited number of studies have examined the relationship between pregnant women's anxiety level and their employment status during the COVID-19 pandemic. Türen and Kılıç (2020) stated that the pregnant women's working status did not affect anxiety during the Covid-19 pandemic (Türen & Kılıç, 2020). Similarly, Güleç et al. (2020) found no significant difference between hospital anxiety and the pregnant women's working status in their study carried on high-risk pregnant women (Güleç, Eminov, & Kavlak, 2020). Research findings have differed from other research findings. The reason

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for this situation is thought to be due to different designs between our research and other studies.

In the study, a significant difference was found between the existence of the chronic disease and COVID-19 fear in pregnant women ( $p < 0.05$ , table 2). In the literature, individuals with chronic diseases such as high blood pressure, heart-lung disease, cancer, or diabetes have been reported to be at higher risk of getting infected COVID-19 (Dündar & Özsoy, 2020). For this reason, it was thought that pregnant women with chronic illnesses had more COVID-19 fear. At the same time, the women with chronic illnesses were more concerned about pregnancy-related morbidity, mortality, and the risky situation during pregnancy (Duman, Taşhan, & Serin, 2019). In the study, it was observed that pregnant women with chronic diseases had higher anxiety levels during the COVID-19 pandemic ( $p < 0.05$ , Table 2). Pregnancy is a period in the life cycle, which can increase the level of anxiety (Kaya, Özkan, & Toprak, 2018). It was predicted that both pregnancy and the presence of chronic diseases could increase women's anxiety levels during the COVID-19 pandemic. However, no study has been encountered in the literature examining the relationship between chronic illnesses during pregnancy and the COVID-19 fear and anxiety.

Due to isolation measures during the COVID-19 process, women have been left alone more. It has been stated that individuals experience moderate or severe psychological changes due to Covid 19, resulting in depression, anxiety and stress (Çelik & Bay, 2020). It has been stated that one of the reasons for increasing anxiety during the pandemic period is the COVID-19 fear (Colizzi et al., 2020). Similarly, in the study, it was found that as the Covid-19 pregnant women's fear levels increased, their anxiety levels also increased ( $p < 0.05$ , Table 4). No study addressing the relationship between COVID-19 fear and anxiety during pregnancy has been encountered in the literature. However, various research findings examining the pregnant women's anxiety levels during the COVID-19 pandemic are available in the literature. In these studies, it has been determined that pregnant women have high anxiety levels during the COVID-19 period (Lebel, MacKinnon, Bagshawe, Tomfohr-Madsen, & Giesbrecht, 2020; Mappa et al., 2020; Moyer et al., 2020; Saccone et al., 2020; Zhou et al., 2020;). Anxiety and depression symptoms are different expressions essentially depending on common causes, and one of them can facilitate the emergence of the other (Gülseren, 2012). Salehi et al. (2020) have stated that during the COVID-19 period, anxiety caused by corona in pregnancy can adversely affect mental health (Salehi et al., 2020). Ahorsu et al. have expressed that COVID-19 fear causes an increase in depression levels in pregnant women (Ahorsu et al., 2020). Our research finding shows correspondence to the

literature. However, more studies showing the relationship between fear of COVID-19 and anxiety are needed.

## **CONCLUSION**

As a result, during the COVID-19 pandemic period, as the pregnant women ages increased, both the COVID-19 fear and the anxiety level increased, and as the education level increased, the COVID-19 fear and anxiety level decreased. Besides, while the number of pregnancies increased, the anxiety level increased and the teachers had higher anxiety level compared to other occupational groups, and pregnant women with chronic diseases had higher anxiety levels with COVID-19 fear. Besides, it was found that there was a positive relationship between the fear of COVID-19 and anxiety levels of pregnant women, and when the fear increased, the anxiety also increased relatively.

COVID-19 infection has emerged and continues to spread rapidly as a pandemic. The uncertain process and the scarce studies cause an increase in the COVID-19 fear during pregnancy. In this process, most responsibility falls on healthcare professionals. It is necessary to reduce the fear and anxiety levels of pregnant women by providing telephone counseling and informing them by using mass communication methods. It is recommended to provide information about all the necessary processes of protection from the disease. Furthermore, more studies are needed to examine the relationship between COVID-19 fear and anxiety.

## **Limitations of the Study**

The study has some limitations. It was conducted online and during the pandemic period. Also, the study did not include pregnant women with insufficient technological opportunities.

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## **Conflict of interest**

The authors declare no conflict of interest in this study.

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