Araştırma Makalesi/Research Article

The Relationship Between Coronavirus Anxiety and Hospital Anxiety of Pregnant Women Applying to the Hospital for Planned Cesarean Section

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Planlı Sezaryen İçin Hastaneye Başvuran Gebelerin Koronavirüs Anksiyetesi ile Hastane Anksiyetesi Arasındaki İlişki

ABSTRACT

Objective: To determine examine the relationship between coronavirus anxiety and hospital anxiety of pregnant women who applied to the hospital for planned cesarean section.

Design: This was a prospective descriptive study.

Setting: This study was conducted in the three university hospitals in Istanbul.

Participants: Sample consisted of a total of 142 women who applied for planned cesarean section between the gestational weeks 36-39.

Methods: Data were collected using the "Coronavirus Anxiety Scale", the "Prenatal Distress Questionnaire", and the "Hospital Anxiety and Depression Scale".

Results: The mean age of the women was 32.14±4.25 years and the average period of gestation was 38.97±2.39 weeks. A moderately positive significant correlation was found between the coronavirus anxiety, prenatal distress, and hospital anxiety and depression scores of the pregnant women who participated in the study (p<0.001; r=0.493; r=0.393; r=0.413).

Conclusions: Pregnant women tend to increase their anxiety during the COVID-19 pandemic. It was found that the COVID-19 stress was higher in those who were diagnosed with COVID-19 in their family, used protective equipment more, and had relatives who would support them in the hospital; whereas, their stress increased the levels of hospital anxiety and prenatal distress.

Keywords: Anxiety, distress, coronavirus, COVID-19, cesarean section, pre-operative

ÖZ

Amaç: Çalışmada planlı sezaryen ameliyatı için hastaneye başvuran gebelerin koronavirüs anksiyetesi ile hastane anksiyetesi arasında ilişkiyi incelemek amacı ile planlandı.

Metod: Bu tanımlayıcı çalışma, İstanbul'da bulunan üç hastanede 142 gebe ile yapıldı. Veriler "Koronavirüs Anksiyete Ölçeği", "Prenatal Distres Ölçeği" ve "Hastane Anksiyete Depresyon Ölçeği" kullanılarak toplandı.

Bulgular: Kadınların yaş ortalaması 32.14±4.25 yıl, gebelik süreleri ortalama 38.97±2.39 haftadır. Çalışmaya katılan gebelerin, koronavirüs anksiyetesi, prenatal distres, hastane anksiyetesi ve depresyon puanları arasında pozitif yönde orta düzeyde anlamlı ilişki saptandı (p<0.001; r=0.493; r=0.393; r=0.413).

Sonuç: Gebelerin, COVID-19 salgını sırasında kaygıları artırma eğilimindedir. Ailesinde COVID-19 tanısı alan, koruyucu ekipman kullanan, hastanede kendisine destek olacak yakınları bulunan kişilerde COVID-19 stresinin daha yüksek olduğu belirlendi. Koronovirüs anksiyetesindeki artış, hastane anksiyetesi ve prenatal distres düzeylerini arttırmaktadır.

Anahtar Kelimeler: Anksiyete, koronavirus, COVİD-19, sezaryen, distres

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INTRODUCTION

COVID-19 is an infectious disease caused by a novel coronavirus (Lu, 2020). During the COVID-19 pandemic, the needs of women during pregnancy, childbirth, and postpartum periods have not been met effectively (Aydın ,2020). The childbirth is one of the processes that the woman needs mostly psychosocial support (Lebel et al., 2020). During the pandemic, most of the hospitals have been treating active COVID-19 cases. During this period, women may have to apply to hospitals for the birth process. The pandemic may cause stress in and of itself. Similarly, pregnancy and labor also cause stress in women (Nomura et al., 2021).

The frequency of examination and follow-up examination can be reduced, especially in pregnant women without risk, and follow-ups can be carried out by telephone/internet in order to reduce the risk of infection during the pandemic (Dotters-Katz & Hughes, 2020). During pregnancy, pregnant women are likely to feel stressed due to follow-ups, planning of delivery, mode of delivery, methods of protection from infection, routine examinations during pregnancy and postpartum follow-up (Brooks et al., 2020). During the pandemic, the delivery environment has also become more medicalized. In addition, the protective equipment of healthcare professionals such as masks, aprons and gloves make it difficult for women to perceive childbirth as natural and physiological (Aydın, 2020). However, before the pandemic, patient relatives were allowed to accompany pregnant women in the delivery room during childbirth, but this has not been allowed during the pandemic, leading probably the women to have an increased anxiety (Brooks et al., 2020). Information on pregnancy and childbirth during the COVID-19 pandemic and surgical process are very limited (Davenport et al., 2018; Sun et al., 2021). This makes it difficult for pregnant women to access information, which increases their anxiety.

Pregnant women feel more anxious during the outbreak (Kahyaoğlu, 2021; Sun et al., 2021). Prenatal anxiety directly influences pregnancy outcomes. Anxiety can lead to numerous physical and mental problems such as preeclampsia, sleep disorder, fetal growth restriction, rejection of care for herself/ her children, psychosis, depression, hopelessness, and suicidal ideation (Becker et al., 2016; Durankuş & Aksu, 2020). Perinatal mental health is an important public health problem and has primary effects on public health. Therefore, women's prenatal anxiety about COVID-19 needs to be addressed. It is crucial to pay more attention to the mental health of pregnant women during the pandemic and to examine the factors affecting their psychological state (Durankuş & Aksu, 2020; Liu et al., 2020; Anikwe et al., 2021). Furthermore, healthcare professionals need training to effectively manage psychological problems during the pandemic (Nanjundaswamy et al., 2020; Taubman et al., 2020). Appropriate maternal care reduces pregnancy complications and mortality (Chen et al., 2020a).

A lot of factors affecting the stress level of pregnant women have been examined in the literature, but the number of studies on the effects of the pandemic process is limited. In this study, the relationship between coronavirus anxiety and hospital anxiety of pregnant women who applied to the hospital for planned cesarean section was assessed in order to contribute to the literature.

METHODS

Study design and population

The descriptive study was conducted in three university hospitals in Istanbul between February 2021 and October 2021. Simple random sampling method was used in the study.

In order to determine the sample size, power analysis was performed using the G*Power (v3.1.9) program. Based on the data obtained as a result of the preliminary study (20 people), the lowest correlation level was found to be 0.241. Accordingly, the sample size was calculated as at least 132 people to achieve power of 80% at the level of $\alpha=0.05$. Sample consisted of a total of 142 women who applied for planned cesarean section between the gestational weeks 36-39. The women who had risky pregnancies, had any psychiatric illness or communication problem were excluded in the study. None of the women in the sample group were infected with Covid 19 during the data collection process.

Research questions

For women who applied to the hospital for cesarean section during the pandemic;

• What is the coronavirus anxiety level?

• What is the hospital anxiety level?

• Is there any relationship between coronavirus anxiety and hospital anxiety of pregnant women who apply for a cesarean section?

Data collection

The pregnant women who would have a cesarean section were admitted to the hospital on the morning of the surgery. First of all, pre-op preparations were made for women before the operation. After the training, the questionnaires were filled using face-to-face interview technique. Afterwards, the patients were transferred to the operating room for surgical intervention.

Data collection tools

The data were collected using the "Coronavirus Anxiety Scale", the "Prenatal Distress Scale", and the "Hospital Anxiety and Depression Scale"

Coronavirus Anxiety Scale (CAS): The scale was developed by Lee (2020). The Turkish validity and reliability of the scale was conducted by Evren et al., (2020). CAS is a 5-point Likert-type scale with 5 items and one dimension. The scale items are scored as never=0, rarely, less than one or two days=1, a few days=2, more than 7 days=3, and almost every day=4 in the last two weeks. The total score is calculated by summing each item score (ranging from 0 to 20). The higher the score, the greater the anxiety associated with coronavirus-19. The Cronbach's Alpha reliability coefficient for the Turkish version of the scale was calculated as 0.80 (Evren et al., 2020). The Cronbach's Alpha value of the scale was 0.861 in this study.

Prenatal Distress Questionnaire (PDQ): The questionnaire was developed by Yali and Lobel (1999), and a 17-item version of the questionnaire was created by Lobel in 2008. Its Turkish validity and reliability study was conducted by Yüksel et al., (2011). The respondents are asked to respond as "Not at all" (0), "A little" (1) or "Too much" (2) to the question about whether they are distressed, sad or worried at that moment concerning each item in the scale. Minimum and maximum scores of the scale are obtained from the questionnaire. A higher total score indicates an increase level of prenatal distress (Yüksel et al., 2011). In their study, Yüksel et al., (2011) determined the Cronbach's Alpha coefficient as 0.85. The Cronbach's Alpha value of the questionnaire was 0.80 in this study. In this study, prenatal distress was evaluated as an independent variable.

Hospital Anxiety and Depression Scale (HADS): The scale was developed by Zigmond and Snaith (1983) to determine the level and severity of depression and anxiety in patients. The Turkish validity and reliability study of the scale was conducted by Aydemir et al., (1997) HADS is a 4-point Likert scale with 14 items. Items are scored between 0-3 points. While odd-numbered items measure anxiety level, even-numbered items measure depression level. Items 1, 3, 5, 6, 8, 10, 11, and 13 are reverse items. The lowest and highest scores of both subscales are 0 and 21. The cut-off points of the Turkish version of HADS were determined as 10 for the anxiety subscale and 7 for the depression subscale (Aydemir et al., 1997). The Cronbach's Alpha reliability coefficient for the Turkish version of the scale was calculated as 0.85 for the anxiety scale and 0.78 for the depression scale. The Cronbach's Alpha value in this study was 0.82 for the anxiety scale and 0.75 for the depression scale.

Data analysis

The R vers.. 2.15.3 program (R Core Team, 2013) was employed for statistical analysis. Minimum, maximum, mean, standard deviation, median, first quartile, third quartile, frequency, and percentage were used in reporting data. The conformity of the quantitative data to the normal distribution was assessed through the Shapiro-Wilk test and graphical examinations. Mann-Whitney U test was used for assessments of quantitative data between two groups and Kruskal-Wallis test was used for assessments between more than two groups. Spearman correlation analysis was used to determine the level of correlation between quantitative variables. Cronbach's alpha coefficient was used to determine internal consistency levels. Statistical significance was accepted as $p < 0.05$.

Ethical considerations

Ethics committee approval (2021-04/01) and institutional permissions were obtained for the study. An informed consent form was signed by the volunteers before data were collected. The study was conducted in line with the Declaration of Helsinki.

RESULTS

The mean age of the women was 32.14±4.25 years and the average gestational age was 38.97±2.39 weeks. Their gravidity was averagely two, their parity was averagely one, and the average number of living children was one (Table 1). The educational level of 94.4% (n=134) of the participants was university or higher, 23.2% (n=33) were housewives, 40.8% (n=58) had a history of surgical intervention. While 36.6% (n=52) had not given birth before, 53.5% (n=76) gave birth by cesarean section. 85.2% (n=121) of the women had planned pregnancies and 97.9% (n=139) had relatives who would support them during the labor (Table 1).

There was no statistically significant correlation between the women's CAS and HADS scores and age, gestational week, gravidity, parity, and number of living children (p>0.05). While there was no significant difference in the CAS scores of the women in terms of their educational status, occupation, history of surgical intervention, type of surgical intervention, previous delivery methods and the presence of a support person during the birth process (p>0.05), a statistically significant difference was found between their current planned pregnancies and their CAS scores (p<0.05). Those with a planned pregnancy had higher CAS scores (Table 1).

There was no statistically significant difference between HADS anxiety scores in terms of the educational status, occupation, history of surgical intervention, type of surgical intervention, previous delivery methods and current planned pregnancy (p>0.05). A statistically significant difference was found between the presence of a support person during the birth process and HADS anxiety scores (p<0.05). HADS scores of

those who had a support person were higher (Table 1).

There was no significant difference between the women's thinking that hospitals are risky in terms of COVID-19 and it is safe to come to the hospital for follow-ups and their CAS scores (p>0.05). A statistically significant difference was found between the women's status of having COVID-19 and their CAS scores (p<0.05; p=0.045). Those who had COVID-19 in the first 3 months of pregnancy had higher scores than those who had it never, before pregnancy, and between 3-6 months (respectively, p=0.003, p=0.007, p=0.006) (Table 2).

A statistically significant difference was found between the fact that women had a family member diagnosed with COVID-19 and their CAS scores. The scores of those having family members diagnosed with COVID-19 are higher (p<0.05; p=0.003). A statistically significant difference was found between the equipment used by the women while coming to the hospital and their CAS scores (p<0.001). The scores of those who used masks and visors were higher than those who used only masks and other equipment (p<0.001, p=0.027, respectively) (Table 2).

There was no statistically significant difference between HADS anxiety scores in terms of the status of women having COVID-19, having a family member diagnosed with COVID-19, believing that hospitals are risky for COVID-19, finding it safe to come to the hospital for follow-ups, and the equipment they used while coming to the hospital (p>0.05). There was a difference in HADS anxiety scores in terms of the presence of relatives who would support the pregnant women during the birth process (p<0.05; p=0.046). Those who had relatives to support had higher scores (Table 2).

Table 1. Demographic characteristics of the women (N:142)

	Min-Max (Median)	Mean±sd	Coronavirus Anxiety Scale		Hospital Anxiety and Depression Scale	
			r	p	r	p
Age	23-47 (32)	32.14±4.25	0.018	0.834	-0.081	0.339
Gestational week	26-43 (39)	38.97±2.39	-0.094	0.265	-0.099	0.242
Gravidity	1-6 (2)	2.16±1.04	-0.117	0.166	-0.085	0.316
Parity	0-2 (1)	0.82±0.75	-0.156	0.063	-0.056	0.506
Number of living children	0-2 (1)	0.85±0.75	-0.147	0.081	-0.032	0.702

	n	%	Median (Q1, Q3)	Test value	p	Median (Q1, Q3)	Test value	p
Educational background				[a]-0.078	0.938		[a]-0.328	0.743
Secondary school-High school	8	5.6	0 (0, 4)			7 (4.5, 8)		
University and higher	134	94.4	0 (0, 3)			7 (4, 10)		
Occupation				[b]7.263	0.202		[b]1.882	0.865
Worker	11	7.7	0 (0, 1)			8 (4, 8)		
Civil servant	23	16.2	0 (0, 5)			7 (3, 9)		
Self-employed	31	21.8	0 (0, 2)			7 (3, 10)		
housewife	33	23.2	0 (0, 3)			8 (4, 10)		
Unemployed	2	1.4	0 (0, 0)			5.5 (3, 8)		
Other	42	29.6	1 (0, 4)			6.5 (3, 10)		
History of surgical intervention				[a]-1.097	0.273		[a]-0.303	0.762
Yes	84	59.2	0 (0, 4)			7 (3, 10)		
No	58	40.8	0 (0, 2)			7 (4, 10)		
Type of previous surgical intervention				[a]-0.289	0.773		[a]-0.499	0.618
Cesarean section	30	21.1	0 (0, 2)			7 (4, 10)		
Other	28	19.7	0 (0, 5)			8 (4, 9)		
Mode of previous delivery				[b]4.410	0.110		[b]0.621	0.733
I have not given birth before	52	36.6	1 (0, 4)			8 (3.5, 9.5)		
Vaginal delivery	14	9.9	0 (0, 0)			4.5 (2, 9)		
Cesarean section	76	53.5	0 (0, 2)			7 (4, 10)		
Planned pregnancy				[a]-2.149	0.032*		[a]-0.268	0.789
No	21	14.8	0 (0, 0)			7 (4, 10)		
Yes	121	85.2	0 (0, 3)			7 (4, 9)		
The presence of the relatives who would support pregnant women during the delivery				[a]-1.458	0.145		[a]-1.993	0.046*
No	3	2.1	0 (0, 0)			1 (0, 6)		
Yes	139	97.9	0 (0, 3)			7 (4, 10)		

r=Spearman's correlation coefficient aMann-Whitney U test, the results were presented in median (first quarter, third quarter). bKruskal-Wallis test, the results were presented in median (first quarter, third quarter). *p<0.05

Table 2: Women's Experiences on COVID-19 (N:142)

	n	%	Coronavirus Anxiety Scale			Hospital Anxiety and Depression Scale		
			Median (Q1, Q3)	Test value	p	Median (Q1, Q3)	Test value	p
Having COVID-19				[b]9.725	0.045*		[b]2.472	0.650
No	111	78.2	0 (0, 3)			7 (3, 9)		
During pregnancy	13	9.2	0 (0, 1)			8 (6, 8)		
During the first trimester	5	3.5	6 (3, 8)			8 (6, 14)		
During 3-6 months of the pregnancy	10	7.0	0 (0, 1)			7 (4, 10)		
During 6-9 months of the pregnancy	3	2.1	3 (0, 4)			10 (2, 15)		
Diagnosis of COVID-19 in the family				[a]-2.980	0.003*		[a]-1.727	0.084
No	103	72.5	0 (0, 2)			7 (3, 9)		
Yes	39	27.5	1 (0, 4)			8 (5, 12)		
Hospitals are very risky places for COVID-19				[b]0.823	0.663		[b]2.845	0.241
Never little	25	17.6	0 (0, 2)			5 (3, 9)		
Moderately	66	46.5	0 (0, 3)			8 (4, 10)		
Very high	51	35.9	0 (0, 3)			7 (3, 10)		
Was it safe for you to come to the hospital for follow-ups?				[a]-1.325	0.185		[a]-1.253	0.210
No	20	14.1	1 (0, 4.5)			8 (5, 11.5)		
Yes	122	85.9	0 (0, 3)			7 (3, 9)		
Equipment used while coming to the hospital				[b]18.409	<0.001*		[b]0.213	0.899
Only Mask	116	81.6	0 (0, 2)			7 (4, 9.5)		
Mask, visor	13	9.2	4 (2, 6)			8 (4, 8)		
Mask and other	13	9.2	0 (0, 6)			6 (3, 10)		
Where do you get information about the coronavirus outbreak?								
Television and internet	116	81.7	0 (0, 3)	[a]-0.172	0.863	7 (4, 9)	[a]-0.365	0.715
Social media	94	66.2	1 (0, 4)	[a]-2.487	0.013*	8 (4, 10)	[a]-1.582	0.114
Ministry and official institutions	81	57	0 (0, 2)	[a]-1.619	0.106	7 (3, 9)	[a]-1.092	0.275
Healthcare professionals	49	34.5	0 (0, 3)	[a]-0.277	0.781	8 (4, 9)	[a]-0.592	0.554
Scientific researches	43	30.3	0 (0, 3)	[a]-0.672	0.502	7 (3, 10)	[a]-0.074	0.941
Friends and acquaintances	36	25.4	0 (0, 4)	[a]-0.878	0.380	7.5 (4, 9.5)	[a]-0.341	0.733
What precautions do you take to prevent the coronavirus?								
Using mask	139	97.9	0 (0, 3)	[a]-1.458	0.145	7 (3, 10)	[a]-0.598	0.550
Washing hands /using disinfectant	128	90.1	0 (0, 3)	[a]-1.350	0.177	7.5 (4, 10)	[a]-2.280	0.023*
Keeping social distance	123	86.6	0 (0, 3)	[a]-1.288	0.198	8 (4, 10)	[a]-2.552	0.011*
Ventilating house frequently	97	68.3	0 (0, 3)	[a]-1.323	0.186	7 (4, 10)	[a]-1.113	0.266
Avoiding to enter in public areas	85	59.9	0 (0, 4)	[a]-1.304	0.192	8 (4, 10)	[a]-1.677	0.094
Isolating myself at home	85	59.9	1 (0, 4)	[a]-2.759	0.006*	8 (4, 11)	[a]-2.522	0.012*
Taking food supplements	60	42.3	1 (0, 4.5)	[a]-3.039	0.002*	8 (4, 12)	[a]-2.414	0.016*
Glove and protective equipment	24	16.9	0 (0, 5)	[a]-0.725	0.468	7 (3, 13)	[a]-0.061	0.951

[a]Mann-Whitney U test, the results were presented in median (first quarter, third quarter).
[b]Kruskal-Wallis test, the results were presented in median (first quarter, third quarter).
*p<0.05

When the CAS total mean scores of the pregnant women was 1.80±2.83, their PDQ total mean score was 7.80±5.13, the HADS anxiety subscale mean score was 6.92±4.13, and the HADS depression subscale mean score was 4.44±3.45 (Table 3).

When the correlation between the scales was examined, it was found that there was a moderately statistically significant positive correlation between the women's CAS scores and their PDQ, HADS anxiety, and HADS depression scores (p<0.001; r=0.460; r=0.407; r=0.411). It was determined that there was a positive moderate statistically significant correlation between the PDQ scores and HADS anxiety and HADS depression scores of the women (p<0.001; r=0.580; r=0.556). It was found that there was a statistically significant positive correlation between HADS anxiety scores and HADS depression scores of the participants (p<0.001; r=0.708) (Table 3).

Table 3. Mean score of the scales and Correlations between the scales (N:142)

		Number of items	Min-Max (Median)	Mean±sd
CAS		5	0-12 (0)	1.80±2.83
PDQ		17	0-27 (7)	7.80±5.13
HADS- Anxiety		7	0-15 (7)	6.92±4.13
HADS- Depression		7	0-14 (4)	4.44±3.45

		CAS	PDQ	HADS- Anxiety	HADS- Depression
CAS	r	1.000	0.460	0.407	0.411
	p	-	<0.001*	<0.001*	<0.001*
PDQ	r	0.460	1.000	0.580	0.556
	p	<0.001*	-	<0.001*	<0.001*
HADS- Anxiety	r	0.407	0.580	1.000	0.708
	p	<0.001*	<0.001*	-	<0.001*
HADS- Depression	r	0.411	0.556	0.708	1.000
	p	<0.001*	<0.001*	<0.001*	-

r=Spearman's correlation coefficient
*p<0.05
CAS: Coronavirus Anxiety Scale
PDQ: Prenatal Distress Questionnaire
HADS: Hospital Anxiety and Depression Scale

DISCUSSION

The study, conducted during the COVID-19 pandemic, examined the effect of coronavirus anxiety on hospital anxiety in pregnant women who were hospitalized to give birth. It was determined that hospital anxiety affects coronavirus anxiety in pregnant women.

It has been reported that advanced age, high level of education, having knowledge about the COVID-19 pandemic and being informed by healthcare professionals have affected anxiety positively during the pandemic (Chen et al., 2020a; Taubman et al., 2020). Women with higher education levels have less prejudice against epidemics. Therefore, pregnant women with low educational level constitute a risky group in terms of anxiety (Zhang et al., 2018). In this study, there was no significant difference between the anxiety levels of the pregnant women and their socio-demographic characteristics. This result might have been caused by that the education level of women was mostly high within the scope of the study. Results can be repeated in studies with different educational levels and large samples.

Anxiety has been reported to be higher in the women's first pregnancy due to the lack of experience women (Chen et al., 2020b; Taubman et al., 2020). The women included in this study had averagely second pregnancy. Therefore, it was thought that their anxiety levels were not affected.

In a study conducted in the USA, the most important factor increasing anxiety was face-to-face consultations during pregnancy follow-ups. While 96.4% of pregnant women planned to give birth in the hospital before the pandemic, this rate was found to be 87.7% during the pandemic (Moyer et al., 2020). In a study conducted in India, the most frequently reported anxiety factor by pregnant women was the fear of infection during prenatal hospital follow-up visits (Nanjundaswamy et al., 2020). In this study, it was observed that the anxiety of pregnant women who used more equipment to prevent COVID-19 was higher.

In this study, it was observed that the women with planned pregnancy had higher COVID-19 anxiety. The planned pregnancy may have affected the anxiety level, as they thought about the necessity of applying to the hospital for doctor follow-ups and the risk of infection transmission during this time.

It is crucial for pregnant women to take social support from their family members during the COVID-19 period (Anikwe et al., 2021; Craig et al., 2021). Spending time with family members before birth helps to eliminate negative emotions and reduce anxiety in pregnant women (Chen et al., 2020a; Chen et al., 2020b). In their study, Karaca et al., (2022) found that pregnant women with social support had higher COVID-19 anxiety levels than those without. In this study, COVID-19 anxiety of pregnant women with and without social support was similar. However, the hospital anxiety scores of the pregnant women who had social support were higher. The presence of relatives of pregnant women in the hospital environment may have caused them to worry and increased the hospital anxiety of pregnant women.

Restrictions have been also applied to hospital visits to reduce the risk of transmission during the pandemic. The possibility of the family not accompanying pregnant women at birth during the pandemic may cause them to experience high anxiety (Demir & Kılıç, 2020). In this study, relatives of the patients were not taken into delivery room during delivery within the scope of infection control measures. It is thought that this situation may affect anxiety in pregnant women.

The fear of losing a family member due to COVID-19 increases the level of anxiety in pregnant women (Demir & Kılıç, 2020). The presence of COVID-19 in the family member may cause fear of losing the family member. In this study, it was determined that the COVID-19 anxiety level of women who were diagnosed with COVID-19 in their families was significantly high.

Information obtained from false sources regarding COVID-19 during pregnancy also increases anxiety (Holmes et al., 2020). In the study conducted by Anikwe et al., (2021) with 460 pregnant women, they found that most of the women had wrong information about infection management. Wrong information can negatively affect both the woman and the pregnancy process (Anikwe et al., 2021). It is known that pregnant women mostly access information via social media (Rezaei et al., 2021). In their study, Nanjundaswamy et al., (2020) reported that pregnant women were concerned about social media messages (40.68%) related to COVID-19. It is crucial to seek reliable sources of information on social media. Although it is known that social media is effective in educating and screening high-risk groups, when there is misinformation, it scares the society and reduces social trust (Rezaei et al., 2021). In this study, it was determined that almost all of the women had a high level of education and had knowledge about COVID-19. Women obtained information most frequently from television/internet and social media..

During the COVID-19 pandemic, pregnant women were exposed to factors that affected their anxiety levels about their pregnancy as well as social factors (Demir & Kılıç, 2020). Sun et al., (2021) determined in their meta-analysis study that one out of every three pregnant and mother women experienced anxiety during the COVID-19 period. In similar studies, it was determined that more than half of the pregnant women experienced high levels of anxiety related to COVID-19 (Karaca et al., 2022). In this study, besides socio-demographic factors, hospital anxiety increased in pregnant women with high coronavirus anxiety.

Unlike these results, Effati-Daryani et al. (2020) reported that pregnant women had lower levels of depression, stress, and anxiety during the COVID-19 pandemic. Likewise, in this study, hospital anxiety and coronavirus anxiety of pregnant women were found to be low. This result can be associated with the high education level of the pregnant women, their knowledge about COVID-19, and their use of equipment.

Strengths And Limitations

The study was conducted only with women who gave birth by cesarean section. Other forms of delivery and women with risky pregnancies were not evaluated. Anxiety of the pregnant women was followed up only before the delivery.

CONCLUSION

In this study conducted during the COVID-19 pandemic, prenatal distress, hospital anxiety, and coronavirus anxiety were present in pregnant women. It was found that the COVID-19 stress was higher in those who were diagnosed with COVID-19 in their family, used protective equipment more, and had relatives who would support them in the hospital; whereas, their stress increased the levels of hospital anxiety and prenatal distress. It is known that COVID-19 is a crisis period for all individuals. Pregnancy period is also a group that is more vulnerable and needs more attention. For this reason, information should be planned to determine the factors that may cause anxiety in women during pregnancy and to solve them in the early period. It is recommended by healthcare professionals to organize online information trainings to reduce hospital anxiety of pregnant women, to minimize the time spent in the hospital environment, and to provide online psychosocial support programs.

Implications for Nursing Practice

Pregnant women tend to increase their anxiety during the COVID-19 pandemic. High levels of stress and anxiety negatively affect maternal and fetal health. Pregnant women should obtain the effects of COVID-19 on the pregnancy process from reliable information sources. Factors causing stress and anxiety should be questioned during pregnancy follow-ups and interventions should be made to eliminate them. For pregnant women who have mental health problems, trainings should be provided in cooperation with doctors / nurses / midwives and psychologists, and online counseling should be provided.

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