Article

Effect of Pregnant Women's Fear of Covid-19 on Their Expectations, Experiences, and Reactions in The First Ultrasound Examination

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A B S T R A C T

This study aims to determine the effect of pregnant women's fear of COVID-19 on their expectations, experiences, and reactions in the first ultrasound examination. This study was conducted with 166 pregnant women who visited the polyclinic in a Hospital of University, on the March and May, 2021 and, have an ultrasound examination for the first time. Data were collected using the Personal Information Form, the Fear of COVID-19 Scale (FCV-19S), and the Parents' Expectations, Experiences, and Reactions to Routine Ultrasound Examination Scale (PEER-U). The average age of pregnant women was 29.02±5.56. While 15.1% had a COVID-19 positive history, 8.4% lost someone they knew due to COVID-19. FCV-19S score was found 18.26±5.32. Fear of COVID-19 scores were higher in women who did not work and who had their first pregnancy. While the mean score for PEER-U before was 59.05±6.99, the mean score for PEER-U after was 65.07±4.53. While a positive correlation was reported between FCV-19S and the scores for PEER-U before (r=0.392), no significant correlation was detected between FCV-19S and the scores for PEER-U after. Pregnant women were found to experience an average fear of COVID-19. It was found a correlation between COVID-19 and the scores for PEER-U before. The fear of COVID-19 and the scores for PEER-U before were found to be affected by some socio-demographic characteristics.

I. INTRODUCTION

Antenatal care includes various health services for determining the diseases that can be experienced by the mother during pregnancy and finding out the presence of any health problems that could risk the pregnancy and the fetus. Pregnancy follow-ups in this period should be performed regularly for the protection and maintenance of maternal and fetal health (Sağlık Bakanlığı, 2018; Taşkın, 2019; World Health Organization, 2016). Many prenatal tests are performed to evaluate the mother and the fetus in the prenatal period. Among these tests, obstetric ultrasonography is the most commonly used one today. Ultrasonography examination, which has become an essential part of antenatal care, could provide very important information regarding the course of pregnancy and sometimes enables to make a diagnosis in abnormal cases (Desdicioğlu et al., 2021; Judd et al., 2020; Nazik et al., 2022; Taşkın, 2019).

In the pregnancy period when intensive physiological, psychological, and emotional changes are experienced, the pregnant woman experiences very different affections regarding her own as well as her baby's wellbeing; before the first ultrasound examination in particular, an increase can be seen in the fear, anxiety, and stress levels (Judd et al., 2020; Kratovil et al., 2017; Nacar et al., 2018). Besides, some pregnant women have several expectations from the ultrasound examination concerning the evaluation of their baby's health and their own health, and they want many questions to be answered after this examination. However, sometimes the examinations do not meet pregnant women's expectations, which could affect all family processes (Akça et al., 2019; Judd et al., 2020; Kratovil et al., 2017; Nykänen et al., 2017).

The COVID-19 pandemic has negatively affected people worldwide in terms of many aspects. Particularly isolation and quarantine measures implemented in this period caused individuals to have increased fears (Ahorsu et al., 2020; Corbett et al., 2020; Salehi et al., 2020). Increased mortality and morbidity rates during the COVID-19 pandemic caused the strict implementation of social isolation measures in pregnant women. Studies show that pregnant women delayed their antenatal follow-ups during the COVID-19 pandemic and did not want to have many prenatal screening tests due to the fear of infection (Ahorsu et al., 2020; Alan et al., 2020; Doncarli et al., 2021; McMillan et al., 2021). Moreover, in this period, pregnant women were found to experience intense fear and psychological and physiological problems such as sleep disorders, anxiety, and depression associated with this fear (Alan et al., 2020; Corbett et al., 2020; Çevik et al., 2022; Salehi et al., 2020).

The COVID-19 pandemic caused a decrease in the frequency of antenatal follow-ups and an increase in fears about ultrasound examinations. The period before and after the ultrasound examination is a process when pregnant women experience very different affections, anxiety, and fears regarding their own well-being and the well-being of their baby (Ahorsu et al., 2020; Alan et al., 2020; Desdicioğlu et al., 2021; Nazik et al., 2022; Doncarli et al., 2021; McMillan et al., 2021). The literature includes many studies on general fears, anxiety, and depression experienced by pregnant women before and during the COVID-19 pandemic period (Alan et al., 2020; Corbett et al., 2020; Çevik et al., 2022; Salehi et al., 2020). On the other hand, no studies were found to have investigated the effect of fear of COVID-19 on ultrasound experiences during the pandemic process. This study, which is believed to fill this gap in the literature, aims to determine the effect of pregnant women's fear of COVID-19 on their expectations, experiences, and reactions in the first ultrasound examination.

II. METHODS

This study used a cross-sectional and descriptive design to determine the effect of pregnant women's fear of COVID-19 on their expectations, experiences, and reactions in the first ultrasound examination.

Research Questions

1) Does pregnant women's fear of COVID-19 affect on their expectations, experiences, and reactions in the first ultrasound examination?

Setting and Time of the Study

The target population of this study, which was conducted between March and May, 2021 at Hospital Medical Faculty of XXX University, included pregnant women who visited the pregnancy polyclinic on the related dates to have an ultrasound examination for the first time. The sample size was calculated using G*power 3.1.9.6 program. Data obtained from the study conducted by Masjoudi et al. (2021) were used for the effect size to be used for the calculation of the sample size (Masjoudi et al., 2021). The sample group was determined using the priori power analysis through a linear multiple regression approach. Hence, the minimum sample size to be accessed at f^2=0.33 effect size, 5% error probability (α=0.05), and 99% power (1-β=0.99) was calculated as 151 (Cohen, 1988; Faul et al., 2007). Considering the potential data loss, the sample size was increased by 10% and a total of 166 individuals was included in the study. Women in the first trimester who agreed to participate in the study and who came for the first routine ultrasound examination and, were 18 age and above were included in the study. Women who had abnormal ultrasound data after the ultrasound examination, language or communication problems, and a history of diagnosed and treated psychiatric disease were not included in the study. After the informed consent of the participants was obtained, the data collection form was filled.

Data collection tools

Data were collected through the Personal Information Form, the Fear of COVID-19 Scale (FCV-19S), and the Parents' Expectations, Experiences, and Reactions to Routine Ultrasound Examination-PEER-U. Pregnant women were taken to separate rooms during data collection. Data collection before and after the ultrasound examination was completed in 15-20 minutes on average.

The Personal Information Form: The form developed by the researchers was composed of 12 questions that collected data about the participants' socio-demographic features, obstetric history and previous COVID-19 infection (Alan et al., 2020; Corbett et al., 2020; Salehi et al., 2020).

The Fear of COVID-19 Scale (FCV-19S)

The 7-item and one-dimension scale was developed by Ahorsu et al. (2020), and its Turkish reliability and validity were performed by Satici et al. (2020) (Satici et al., 2020). The scale is responded on a 5-point Likert Scale (1: I strongly disagree, 2: I disagree, 3: I am not sure, 4: I agree, 5: I strongly agree). High scores obtained from the scale indicate high levels of fear of COVID-19. Cronbach's alpha internal consistency coefficient of the scale was found 0.88.[21] This study found Cronbach's alpha internal consistency coefficient as 0.94.

Parents' Expectations, Experiences, and Reactions to Routine Ultrasound Examination throughout Pregnancy Scale (PEER-U)

The scale was developed by Ekelin et al. in 2008 (Ekelin et al., 2009). Turkish reliability and validity were performed by Akça et al., (2018) (Akça et al., 2018). The scale can be administered to both mothers and fathers and it consists of two parts as before ultrasound and after ultrasound. The part administered before the ultrasound examination included 21 items and six sub-scales called "anxiety about baby's health, expectation about interaction with staff, attachment, verification, reservation, and deciding". The part administered after the ultrasound examination had 21 items and five sub-scales called "information during an examination, attachment, family affinity, anxiety about the results, and sense of security". The scale was responded as "1=I strongly disagree, 2=I agree a little, 3=I agree a lot, and 4=I strongly agree". The scores obtained from the scale are evaluated based on factors, and no total scale scores are used. Before

and after PEER-U scores range from 21 to 84. While higher scale scores are considered "negative", lower scores are considered "positive" for each scale and sub-scale belonging to that scale. While Cronbach's α value was 0.65 for PEER-U before, it was 0.89 for PEER-U after.[9] In this study, while Cronbach's α value was 0.75 for PEER-U before, it was 0.67 for PEER-U after.

Statistical Analysis

Data analysis was performed in SPSS 22 (Statistics Package for Social Sciences for Windows, Version 21.0, Armonk, NY, IBM Corp.) package program. Frequencies, means, and standard deviation tests were used for pregnant women's descriptive characteristics and evaluations of the scales. The Shapiro-Wilk test was used to test if the data obtained were distributed normally. The data were found not to distribute normally, so nonparametric tests were used for the analysis. Comparison of the dependent and independent variables was done using the Mann-Whitney U test for the analysis of the two group means, and the analysis of three or more groups means was done using the Kruskal-Wallis H test. In addition, Spearman Correlation were used.

Ethical Approval

To conduct the study, ethics approval was obtained from the Noninvasive Clinical Research Ethics Committee of Medical Faculty at XXX University (dated 12.02.2021 and numbered 108-47). Informed consent was received from the participants. The procedures used in this study were in line with the principles of the Declaration of Helsinki.

III. RESULT

Table 1. Descriptive information (n=166)	
	$\chi\pm SD$ (median, min-max)
Age	29.02±5.56 (29, 18, 42)
	n (%)
Educational status	
Literate	15(9)
Primary School	28(16.9)
Middle School	34(20.5)
High School	36(21.7)
University And Above	53(31.9)
Working or not	
Working	35(21.1)
Not Working	131(78.9)
Income level	
Very high	16(9.6)
High	33(19.9)
Middle	110(66.3)
Low	7(4.2)
Social security	
Yes	138(83.1)
No	28(16.9)
Chronic disease	
Yes	10(6.0)
No	156(94.0)
Number of pregnancies	
One	47(28.3)
Two	59(35.5)
Three or more	60(36.1)
Number of children	
No	44(26.5)
One	57(34.3)
Two	51(30.7)
Three or more	14(8.5)
Being infected with Covid-19 while pregnant	
Yes	25(15.1)
No	141(84.9)

Losing someone you knew due to Covid-19	
No	152(91.6)
Yes	14(8.4)
-First-degree relative	7(4.2)
-Friend	5(3.0)
-Colleague	3(1.8)

The average age of the participants was 29.02±5.56. Of all the participating women, 31.9% had an education level of university and above, 21.1% worked, and 66.3% had a middle-income level. An analysis of participating women's medical and obstetric history showed that 6% had a chronic disease and 34.3% had their first pregnancy. In addition, 15.1% had a COVID-19 positive history, 8.4% lost someone they knew due to COVID-19, and 4.2% of the women who lost someone they knew reported that the person they lost was their first-degree relative (Table 1).

Frequency

Participating women's fear of COVID-19 scale mean score was 18.26±5.32; the mean score for PEER-U before was 59.05±6.99; and the mean score for PEER-U after was 65.07±4.53 (Table 2). Table 2 presents the sub-scale mean scores for PEER-U before and after.

Table 2. Total score distribution and correlations of the scales (n=166)

	χ±SD (median, min-max)
FCV-19S	18.26±5.32 (18, 8-29)
PEER-U Before	59.05±6.99 (59, 38-76)
Anxiety about baby's health	12.14±3.20 (12, 5-20)
Expectation about interaction with staff	10.34±3.40 (10, 5-19)
Attachment	14.68±2.00 (16, 6-19)
Verification	11.21±1.23 (12, 4-12)
Reservation	3.10±1.64 (2, 4-12)
Deciding	7.56±1.16 (8, 2-8)
PEER-U After	65.07±4.53 (66, 44-74)
Information during examination	29.60±2.88 (31, 21-35)
Attachment	11.52±0.98 (12, 7-12)
Family affinity	7.64±0.80 (8, 4-8)
Anxiety about the results	5.46±1.78 (5, 4-11)
Sense of security	10.84±1.14 (11, 7-13)

Frequency

Fear of COVID-19 scores were higher in women who did not work and who had their first pregnancy (p<0.05). However, women's fear of COVID-19 scores were similar according to other sociodemographic, medical, and obstetric features (p>0.05). Scores for PEER-U before were higher in women who had their first pregnancy (p<0.05). On the other hand, their scores for PEER-U before were similar according to other socio-demographic, medical and obstetric

characteristics (p>0.05). Participating women's scores for PEER-U after were similar according to their socio-demographic, medical, and obstetric features (p>0.05) (Table 3).

X²: Kruskal-Wallis Test, Z:Mann-Whitney U Test,

Table 3. The mean score distribution of the scales according to the descriptive information (n=166)

	FCV-19S $\chi \pm SD$ (median, min-max)	PEER-U Before $\chi \pm SD$ (median, min-max)	PEER-U After $\chi \pm SD$ (median, min-max)
Educational status			
Literate	16.93±5.06 (17, 9-24)	56.73±6.38 (59, 39-65)	62.78±6.95 (65, 44-70)
Primary School	18.14±3.83 (18, 10-27)	58.82±6.65 (57, 46-72)	65.50±3.14 (67, 56-69)
Middle School	17.23±6.31 (17, 8-29)	59.23±5.81 (59, 47-72)	64.05±4.97 (63, 57-72)
High School	20.25±4.00 (21, 10-25)	58.83±6.31 (58, 49-73)	65.27±2.93 (66, 57-69)
University And above	18.01±5.92 (18, 8-28)	59.05±6.99 (59, 38-76)	65.98±4.80 (68, 55-74)
X²	8.066	1.789	5.536
p	0.089	0.774	0.237
Working or not			
Working	16.85±4.25 (16, 9-23)	58.71±7.34 (55, 38-71)	65.23±4.62 (67, 55-69)
Not Working	18.64±5.52 (20, 8-29)	59.14±6.93 (58, 39-76)	65.03±4.52 (65, 44-74)
Z	-1.990	-0.057	-0.987
p	**0.047**	0.954	0.323
Income level			
Very high	17.68±4.51 (17, 9-27)	58.00±6.25 (55, 48-72)	64.53±4.10 (67, 56-69)
High	19.24±5.43 (19, 9-28)	59.72±7.07 (58, 39-72)	65.81±4.62 (66, 44-69)
Middle	18.36±5.22 (20, 9-29)	59.11±7.22 (57, 38-76)	65.07±4.63 (66, 55-74)
Low	13.42±6.39 (11, 8-23)	57.28±5.12 (59, 46-61)	62.85±2.91 (63, 58-68)
X²	6.841	2.072	4.860
p	0.077	0.558	0.182
Number of pregnancies			
One	19.77±5.12 (21, 9-29)[a]	61.74±6.60 (71, 48-76)[ab]	65.84±4.24 (65, 56-74)
Two	18.12±5.05 (20, 9-28)	58.52±7.24 (57, 46-76)[a]	64.66±4.30 (65, 56-74)
Three or more	16.88±5.39 (16, 8-28)[a]	57.46±6.54(58, 38-73)[b]	64.90±4.94 (66, 44-72)
X²	8.237	13.530	4.578
p	**0.016**	**0.001**	0.101
Being infected with Covid-19 while pregnant			
Yes	19.16±4.80 (21, 12-28)	59.88±7.01 (61, 38-72)	64.40±4.03 (63, 55-68)
No	18.10±5.40 (19, 8-29)	58.90±7.01 (57, 39-76)	65.20±4.61 (66, 44-74)
Z	-0.770	-1.440	-1.068
p	0.441	0.150	0.285
Losing a loved one due to Covid-19			
No	18.41±5.24 (19, 9-29)	58.92±7.19 (57, 38-76)	65.07±4.63 (66, 44-74)
Yes	16.64±6.09 (18, 8-24)	60.42±4.32 (60, 56-71)	65.14±3.39 (64, 57-69)
-First degree relative	16.57±5.79 (16, 11-24)	59.85±2.96 (59, 57-66)	63.00±5.85 (64, 57-69)
-Friend	13.20±5.49 (11, 11-23)	60.40±6.30 (59, 59-71)	60.60±5.12 (57, 57-64)
-Colleague	11.00±0.00 (11,11)	59.00±0.00 (59, 59)	57.00±0.00 (57, 57)
Z	-0.968	-1.022	-0.035
p	0.333	0.307	0.972

a,b:Pairwise comparison

A positive, medium strength, and statistically significant correlation was detected between FCV-19S and scores for PEER-U before (r=0.392, p<0.001). However, no significant correlation was found between FCV-19S and scores for PEER-U after (r=0.009, p=0.906). A positive, weak, and

statistically significant correlation was found between the scores for PEER-U before and after (r=0.224, p=0.004) (Table 4).

Table 4. Total score distribution and correlations of the scales (n=166)

	FCV-19S		PEER-U Before		PEER-U After	
	r	p	r	p	r	p
FCV-19S	1.000	-	0.392	**<0.001**	0.009	0.906
PEER-U Before			1.000	**-**	0.224	**0.004**
Anxiety about baby's health	0.381	**<0.001**	0.845	**<0.001**	-0.026	0.735
Expectation about interaction with staff	0.259	**0.001**	0.753	**<0.001**	0.230	**0.003**
Attachment	0.145	0.063	0.342	**<0.001**	0.097	0.212
Verification	0.041	0.596	0.241	**<0.001**	0.135	0.082
Reservation	0.019	0.811	0.044	**<0.001**	-0.235	**0.002**
Deciding	0.218	0.005	0.279	**<0.001**	0.126	0.106
PEER-U After					1.000	**-**
Information during examination	0.058	0.456	0.116	0.140	0.870	**<0.001**
Attachment	0.101	0.194	0.092	0.239	0.603	**<0.001**
Family affinity	0.090	0.248	0.086	0.273	0.544	**<0.001**
Anxiety about the results	-0.071	0.364	0.186	**0.016**	-0.139	0.076
Sense of security	-0.119	0.127	0.016	0.833	0.770	**<0.001**

Spearman correlation, r: correlation coefficient

IV. DISCUSSION

Increased mortality and morbidity rates during the COVID-19 pandemic caused very strict implementation of the measures of social isolation for pregnant women, and worries about infection caused pregnant women to delay antenatal follow-ups and experience worry and fear about having many prenatal tests.

Of all the pregnant women in this study, 15.1% had a COVID-19 positive history, 8.4% lost someone they knew due to COVID-19, and more than half had middle income. Centers for Disease Control and Prevention data reported that 5.7% of women in the 15-49 age group who tested COVID-19 positive and were symptomatic consisted of pregnant women (Rasmussen et al., 2019; Wenling et al., 2020). Similarly, another study reported that infection rates were higher in pregnant women compared to women aged 20-39 (Lokken et al., 2021). SARS-CoV-2 infection is more common among individuals living in socially and economically disadvantaged environments. A study conducted in New York city reported that COVID-19 infection risk was higher in pregnant women who had lower income level (Emeruwa et al., 2020).

This study found that participating women had an above-average level of fear of COVID-19. The rapid spread of COVID-19 and high death rates affected people in terms of many physical, social, and psychological aspects, which caused people to develop fear of COVID-19. Studies showed that the fear of COVID-19 was experienced in all parts of society, yet this rate was higher in pregnant women (Asai et al., 2021; Biviá-Roig et al., 2020; Davis-Floyd et al., 2020; Mortazavi et al., 2021).

The descriptive study conducted by Asai et al. (2020) evaluated the fear of COVID-19 and found that the fear of COVID-19 scores were higher in pregnant women than other women of reproductive age (Asai et al., 2021). In their descriptive study, Naghizadeh & Mirghafourvand (2021) investigated the correlation between the fear of COVID-19 and the quality of life in pregnant women and reported that pregnant women had high levels of fear of COVID-19 (Naghizadeh ve Mirghafourvand, 2021). Similarly, in their study conducted in the USA, Davis-Floyd et al. (2020) reported that pregnant women experienced anxiety and fear due to the probability of COVID-19 infection while receiving prenatal care in hospitals (Davis-Floyd et al., 2020).

This study found that the fear of COVID-19 was higher in women who did not work and who had their first pregnancy. Giesbrecht et al. (2022) found that women who never gave birth had

higher fear of COVID-19 compared to women who gave birth (Giesbrecht et al., 2022). Studies show that ethnic origin, geographical location, chronic health condition, and economic condition were associated with experiencing fear of COVID-19, and poor health and economic conditions in the living environment increased the fear of COVID-19 (Asai et al., 2021; Biviá-Roig et al., 2020; Davis-Floyd et al., 2020; Liu et al., 2020; Mortazavi et al., 2021; Naghizadeh ve Mirghafourvand, 2021). Similarly, the study conducted by Garg et al. (2021) reported that the fear of COVID-19 increased due to factors such as low socio-economic status, minority ethnicity, and the presence of a chronic health problem (Garg et al., 2020). Another study that evaluated the COVID-19-related factors reported that variables such as food inadequacy, ethnic origin, geographical location, and presence of a chronic health problem increased the fear of COVID-19 (Giesbrecht et al., 2022). The study conducted by Meraya et al. (2021) indicated that mothers' and pregnant women's psychological problems and fears associated with COVID-19 increased in case of the presence of a poor socio-economic condition and chronic disease (Merava et al., 2021).

This study found that the scale mean score for PEER-U before was lower in pregnant women who came for an ultrasound examination for the first time in comparison to the mean score for PEER-U after; namely, pregnant women's before-ultrasound expectations, experiences, and reactions were found to be more negative. The literature was found to include no studies on pregnant women's expectations, experiences, and reactions before and after the ultrasound examination. However, there are studies on this issue conducted with pregnant women out of the COVID-19 pandemic period (Akca et al., 2019; Ekelin et al., 2009; Judd et al., 2020; Kratovil et al., 2017; Larsson et al., 2009; Nykänen et al., 2017). A study that evaluated expectations of candidate mothers and fathers about first-trimester antenatal screenings found that pregnant women were more worried than their husbands concerning their baby before the ultrasound examination, and both mothers and fathers were found to have positive reactions and experiences after the ultrasound examination (Nykänen et al., 2017). Another study showed that candidate mothers were more worried than their husbands before the ultrasound examination, and both parents were significantly less worried after the examination in comparison to before the examination (Ekelin et al., 2009). Larsson et al. (2009) investigated parents' experiences before and after the routine ultrasound examination in the second trimester and reported that parents had high levels of worry before the ultrasound examinations, and parents who had normal findings after the ultrasound examination were found to be less worried than parents who had abnormal findings (Larsson et al., 2009). Besides the fear of being infected by COVID-19, the mortality and morbidity rates caused by the COVID-19 pandemic brought along psychological consequences such as worry, depression, and stress. In their study in which gynecologists evaluated the complaints of pregnant women who came for examination during the COVID-19 pandemic, Nanjundaswamy et al. (2020) found that more than half of the pregnant women had anxiety, and this anxiety level was found to increase in the 3rd trimester (Nanjundaswamy et al., 2020).

In this study, the score for PEER-U before was found to be higher in pregnant women who had their first pregnancy. In their study that evaluated expectations of candidate mothers and fathers from the first-trimester antenatal screenings, Nykänen et al. (2017) found that women who never gave birth experienced worries before ultrasound examination and needed more consultancy on antenatal screenings (Nykänen et al., 2017). Different from the findings of this study, another study that investigated the effects of the first, second, and third-trimester ultrasonography on the variables associated with psychosocial adaptation found that pregnant women who had normal ultrasound findings in their current pregnancy yet had miscarriage history before experienced higher levels of anxiety in comparison to other pregnant women (Simó et al., 2019).

This study found that candidate mothers' fear of COVID-19 was correlated with the evaluation of parents' expectations, experiences, and reactions in routine ultrasound examinations. Due to

the fear and anxiety they experienced, pregnant women delayed or completely gave up benefiting from many health services such as antenatal follow-ups during the pandemic period. This condition also affected candidate mothers' pregnancy-related expectations, experiences, and reactions (Davis-Floyd et al., 2020; Hamzehgardeshi et al., 2019; Nanjundaswamy et al., 2020). The study conducted by Moyer et al. (2020) investigated how the COVID-19 period affected pregnant women and found that pregnant women had high levels of anxiety, and due to their worries about the probability of COVID-19 infection, they delayed their antenatal follow-ups (Moyer et al., 2021). In a similar vein, a descriptive study that evaluated the difficulties, antenatal care, and anxiety experienced by pregnant women during the COVID-19 pandemic showed that almost half of the women had medium-level anxiety, which affected pregnancy follow-ups and examinations negatively (Kumru et al., 2022).

V. CONCLUSION

This study found that pregnant women experienced an average level of fear of COVID-19; pregnant women who did not work and who had their first pregnancy had higher levels of fear of COVID-19; pregnant women's expectations, experiences, and reactions before ultrasound were more negative compared to after ultrasound and these reactions were higher in those who had their first pregnancy. Also, the fear of COVID-19 was correlation with the score for PEER-U before. In this regard, before the first ultrasound examination, pregnant women should be provided with comprehensive information about what they could experience, and these negative factors is important decreased to a minimum. Fear of COVID-19 and ultrasound examination can be decreased by informing women about ultrasound examination and findings before the examination. It might be useful which using comprehensible language while communicating with pregnant women during the examination and using providing pregnant women with suitable information support after the examination.

Strengths and Limitations of the Study

The most important strength of this study is that the data were collected during the COVID-19 pandemic when the cases reached a peak, and the sample consisted of pregnant women who were seen in the high-risk group in this period. Secondly, national and international literature includes a limited number of studies on pregnant women's first ultrasound examination experiences and anxiety and expectations before and after the examination. In this respect, the current study aims to provide an important contribution to the literature. Besides these strengths, the study also has some limitations. In our society, spouses generally do not accompany pregnant women during pregnancy follow-ups. The lack of evaluation of spouses' views and experiences is a limitation of the study. It is recommended that future studies on this issue should include both pregnant women and their spouses.

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