ORIGINAL ARTICLE

https://doi.org/10.1590/1806-9282.20221302

The effect of COVID-19 fear on prenatal distress and childbirth preference in primipara

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SUMMARY

OBJECTIVE: The purpose of this study was to examine the effect of COVID-19 fear on prenatal distress and childbirth preference in primipara.
METHODS: This descriptive and cross-sectional study was conducted with 206 primipara women in Istanbul between June and December 2021. The data were collected with an information form, "The Fear of COVID-19 Scale" and "The Prenatal Distress Questionnaire."
RESULTS: The median of the Fear of COVID-19 Scale was 14.00 (7–31) and the median of the Prenatal Distress Questionnaire was 10.00 (0–21). A statistically significant positive and weak correlation was found between "The Fear of COVID-19 Scale" and "The Prenatal Distress Questionnaire" (r=0.21; p=0.00). Overall, 75.2% of pregnant women preferred normal (vaginal) delivery. There was no statistically significant relationship between "The Fear of COVID-19 Scale" and childbirth preference (p>0.05).
CONCLUSION: It was determined that fear of coronavirus increases prenatal distress. Women should be supported to cope with fear of COVID-19 and prenatal distress, both during the preconceptional and antenatal periods.
KEYWORDS: Natural childbirth. Cesarean section. COVID-19. Fetal distress.

INTRODUCTION

The novel coronavirus (SARS-CoV-2), which emerged in Wuhan, China, in December of 2019, was identified as a causative agent of a series of atypical respiratory diseases. The SARS-CoV-2 disease, called COVID-19, was declared a pandemic by the World Health Organization on March 11, 2020[1]. Pregnant women may be at higher risk of becoming infected with SARS-CoV-2 and developing more complex clinical events due to physiological and immune changes[2].

Pregnant women are among the groups that are most affected psychologically due to the stress and fear they experience during the COVID-19 pandemic[3]. In the literature, it is stated that pregnant women have a high COVID-19 phobia[4], most of the pregnant women concern about infecting their babies during delivery[5], and during the COVID-19 period, it was reported that depression symptoms were high during pregnancy[6]. The possibility of not being with their families during childbirth and the fear of dying because of COVID-19 increase the level of anxiety in pregnant women[7].

The COVID-19 pandemic is creating a new source of stress with unique implications for parents and those preparing for childbirth. There is evidence that this stress leads to additional stress during pregnancy[8]. Factors such as isolation measures, limitations on pregnancy controls, not being with family members during pregnancy controls, feeling the need to protect their babies as well as protecting themselves, the probability of the infection to be transmitted to the fetus, and the economic and social effects of the pandemic increase the fear of COVID-19 and the level of prenatal stress in pregnant women[9,10]. It is known that increased stress during pregnancy increases the risk of cesarean delivery. Pregnant women do not prefer vaginal birth because of the pain factor, the long duration of delivery, and the inability to be with spouses or other family members during childbirth. It is stated that health professionals prefer cesarean delivery in pregnant women who have COVID-19, although it has not been proven yet, to reduce the possibility of transmitting COVID-19 to the baby[10,11]. The purpose of this study was to examine the effect of COVID-19 fear on prenatal distress and childbirth preference in primipara.

METHODS

Study design

The study was conducted as descriptive cross-sectional type.

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Conflicts of interest: the authors declare there is no conflicts of interest. Funding: none.
Received on January 06, 2023. Accepted on February 03, 2023.

Population and sample of the study

The universe of the study consisted of primipara women who applied to the maternity polyclinics of a training and research hospital in Istanbul, Turkey, between June 2021 and December 2021. The G*Power 3.1.2.9.7 package program has been used to determine the sufficient sample size. For the sample of the research, the results of the study conducted by Aksoy Derya et al.[9] were taken as basis. The effect size was calculated by using the mean and standard deviation values of the total score variable related to the prenatal distress questionnaire of the participants in this study. The sample size was determined as 198 women, considering the degree of confidence (95%), margin of error (5%), effect size (0.5), and ability test (80%), and the data were collected from 206 pregnant women. The data were obtained by conducting face-to-face interviews. It takes 15–20 min to complete each questionnaire.

Inclusion criteria of the study

The inclusion criteria of the study were ³18 years old, willingness to participate, being primipara, knowing Turkish language, and not having communication barriers.

Exclusion criteria of the study

The exclusion criteria were pregnant women who refused to participate in the study and were unable to complete the data collection instrument.

Data collection tools

The study data were collected with a 13-question information form containing demographic and obstetric data, conducted by the researcher in line with the literature[9-11], "The Fear of COVID-19 Scale" and "The Prenatal Distress Questionnaire."

The Fear of COVID-19 Scale (FCV-19S): It was developed by Ahorsu et al.[12] and adapted to the Turkish language by Bakioğlu et al.[13] It is a 5-point Likert-type scale with seven items. The Cronbach's alpha was 0.82, and in this study it was found to be 0.81.

The Prenatal Distress Questionnaire (PDQ): It was developed by Yali and Lobel[14], and the scale was revised by Lobel[15], increasing the number of items from 12 to 17. The Turkish validity and reliability of the scale were established by Yüksel et al.[16] The scale has no cutoff score. The Cronbach's alpha was reported as 0.85[16], and in this study it was found to be 0.79.

Data analysis

The SPSS (Windows 22.0) software was used for data analysis. Descriptive statistical methods (mean, standard deviation, mode, median, frequency, minimum, and maximum) were used for statistical analysis of data, and Mann-Whitney U, chi-square, and Spearman's correlation tests were calculated for determining the relationship between the descriptive tests and scales. No missing data were found in the study. While analyzing the demographic and obstetric data of the participants, median and percentage values were taken as basis. The median value was also determined while analyzing the scale scores.

Ethical considerations

Ethics committee approval was obtained from the Social and Humanities Research and Publication Ethics Committee of a university (decision no.: 2021/29; date: 17.05.2021). Data were collected after ethics committee approval and institutional permission. Verbal and written consent was obtained from the participants who met the criteria for being included in the sample and agreed to participate in the research.

RESULTS

The sociodemographic and obstetric data of women are presented in Table 1. The mean age of women was 26.78±5.28 years. It was found that 57.3% of the pregnant women were in the third trimester, 43.7% had health problems related to pregnancy, and 85.4% had planned pregnancy (Table 1).

The mean scale scores of the pregnant women were as follows: the FCV-19S scores were moderate (median: 14.00; min: 7; and max: 31); and the PDQ scores were also moderate (median: 10.00; min: 0; and max: 21).

The correlation between FCV-19S and PDQ is shown in Table 2. A statistically significant positive and weak correlation was found between FCV-19S and PDQ (r=0.21; p=0.00) (Table 2).

It was found that 75.2% of the pregnant women preferred normal (vaginal) delivery. The reason why most of them (71.0%) preferred normal delivery was that normal delivery was healthier than caesarean delivery. The most important reason for preferring caesarean delivery was the fear of labor pain (88.2%).

The comparison of the characteristics of the pregnant women and their scale scores is presented in Table 3. It was determined that the pregnancy trimester affected the PDQ scores. When FCV-19S and pregnancy trimester were compared, it was found that the fear of coronavirus was higher in the first trimester than in the second and third trimesters (χ^2=25.374; p=0.00). A statistically significant relationship was found between planned pregnancy status (Zmwu=-2.192; p=0.02), health problems in the baby (Zmwu=-3.366; p=0.00), and PDQ. When the relationship between preferred type of delivery and FCV-19S and PDQ scores were examined, it was determined that there was

Table 1. Sociodemographic and obstetric characteristics of pregnant women (n=206).

Variables		X±(SD)	Min–Max
Age (years)		**26.78±5.28**	**17.00–41.00**
		n	**%**
Marital status	Married	206	100.0
	Single	0	0.0
Education level	Literate	5	2.4
	Primary School	37	17.9
	Secondary School	36	17.4
	High School	56	27.1
	Graduate and Master	72	34.9
Employment status	Employed	17	8.3
	Unemployed	179	86.9
	Unemployed because of pregnancy	10	4.9
Health insurance	Yes	146	70.9
	No	60	29.1
Income status	Lower than expenditure	89	43.2
	Equal to expenditure	109	52.9
	Higher than expenditure	8	3.9
Trimester	1. Trimester	41	19.9
	2. Trimester	47	22.8
	3. Trimester	118	57.3
Health problems during pregnancy	Yes No	90 116	43.7 56.3
Health problems type during pregnancy	Nausea-vomiting	26	12.6
	Urinary tract infection	18	8.7
	Gestational diabetes	5	2.4
	Hypertension	5	2.4
	Pain	5	2.4
	Premature labor risk	11	5.3
	Placenta previa totalis	6	2.9
	COVID-19 infection	6	2.9
	Premature membrane rupture	4	1.9
	Hypothyroidism	4	1.9
Planned pregnancy	Yes	176	85.4
	No	30	14.6
Wanted having baby	Both parents want baby	198	96.1
	Mother wants, father doesn't	5	2.4
	Father wants, mother doesn't	3	1.5
Health problem in baby	Yes	18	8.7
	No	188	91.3
Health problem Type in baby	Polihidramnios	6	2.9
	Intrauterine growth restriction	4	1.9
	Vaginal bleeding	4	1.9

Mean±SD: mean±standard deviation; Min: minimum; Max: maximum.

no statistically significant relationship (p>0.05). It was determined that those who preferred cesarean section had higher concerns about health care and health status, as well as about baby care and postpartum period (Table 3).

DISCUSSION

In this study, it was found that pregnant women had a moderate level of fear of COVID-19 infection. There are studies in the literature showing that pregnant women have a higher than moderate fear of COVID-19[3,17]. In line with this study's findings and the literature, it can be said that the COVID-19 pandemic caused a moderate or higher level of fear of coronavirus in primiparous women.

In this study, it was determined that pregnant women experienced a moderate level of prenatal distress. There are results in the literature showing that primiparous women experienced moderate-to-high levels of prenatal stress during the pandemic[18-22]. In line with these findings, it can be said that the COVID-19 epidemic may affect pregnant women negatively and cause stress and anxiety. The stress during pregnancy can adversely affect the blood pressure and heart rate of the fetus, cause premature birth, and lead to low birth weight[3]. For this reason, it is important to determine the risk factors that cause prenatal distress for mother-baby health and a healthy pregnancy and postpartum period.

In this study, it was found that as the fear of COVID-19 increased, prenatal stress increased, and the most important predictors of the fear of COVID-19 were the PDQ's "physical and social changes due to pregnancy," "concerns about baby care and postpartum period," and "financial concerns," and subdimensions were determined. There are studies with similar findings

Table 2. Correlation between scales.

	Fear of COVID-19 Scale	
	r*	p-value
Prenatal Distress Questionnaire	0.21*	0.00
Physical and social changes due to pregnancy	0.14*	0.03
Concerns about health care and health status	-0.08	0.23
Concerns about baby care and postpartum period	0.40*	0.00
Financial concerns	0.25*	0.00

*p≤0.05, Spearman's correlation. Bold values indicate statistical significance at the p<0.05 level.

Table 3. The comparison of pregnant women's characteristics and scale scores.

Scales		FCV-19S		PDQ		Physical and social changes due to pregnancy		Concerns about health care and health status		Concerns about baby care and postpartum period		Financial concerns	
Variables		Median (Min–Max)	Test p-value	Median (Min–Max)	Test p-value	Median (Min–Max)	Test p-value	Median (Min–Max)	Test p-value	Median (Min–Max)	Test p-value	Median (Min–Max)	Test p-value
Trimester	1. Trimester	25.00 (7–28)	25.374** 0.00	10.00 (0–15)	7.263** 0.02	7.00 (0–12)	5.571** 0.05	1.00 (0–2)	4.888** 0.08	1.00 (0–2)	13.044** 0.00	1.00 (0–3)	8.785** 0.01
	2. Trimester	16.00 (11–27)		10.00 (0–19)		6.00 (0–11)		1.00 (0–2)		1.00 (0–4)		1.00 (0–3)	
	3. Trimester	13.00 (7–31)		8.00 (2–21)		5.50 (0–13)		0.50 (0–5)		0.00 (0–3)		0.00 (0–3)	
Planned pregnancy	Yes	15.00 (7–31)	-1.291* 0.19	10.00 (0–21)	-2.192* 0.02	6.00 (0–13)	-2.096* 0.03	0.00 (0–5)	-2.253* 0.02	0.00 (0–4)	-2.677* 0.00	1.00 (0–3)	-2.007* 0.04
	No	14.00 (11–21)		13.00 (5–15)		10.00 (3–11)		1.00 (0–2)		1.00 (0–2)		0.00 (0–3)	
Health problems in baby	Yes	19.00 (13–21)	-1.340* 0.18	19.00 (0–21)	-3.366* 0.00	10.00 (0–13)	-3.293* 0.00	2.00 (0–5)	-3.295* 0.00	3.00 (0–4)	-4.589* 0.00	0.00 (0–3)	-1.977* 0.04
	No	14.00 (7–31)		9.00 (0–15)		6.00 (0–12)		1.00 (0–3)		0.00 (0–2)		1.00 (0–3)	
Preferred type of delivery	Normal (vaginal) delivery	15.00 (7–28)	-0.543* 0.58	10.00 (0–21)	-0.097* 0.92	6.00 (0–13)	-0.912* 0.36	0.00 (0–5)	-2.623* 0.00	0.00 (0–3)	-2.619* 0.00	1.00 (0–3)	-1.620* 0.10
	Caesarean delivery	14.00 (11–31)		8.00 (2–19)		6.00 (0–11)		1.00 (0–2)		1.00 (0–4)		1.00 (0–3)	

*Mann-Whitney U test; **Kruskall-Wallis test, p<0.05.

in the literature[3,19]. It is important that pregnant women are not exposed to COVID-19 to optimize their health. For this, it is recommended to take all available measures (vaccination, hygiene practices, wearing a mask, and maintaining social distance)[23]. Fear of being infected with COVID-19 during pregnancy, uncertainties, delaying health checks due to lack of information, being away from work due to the pandemic, and loss of economic income may increase prenatal stress.

In this study, it was found that the trimester of pregnancy affected prenatal distress. In the literature, different results have been found in this regard[24,25]. It is thought that the fact that the women in our study had their first pregnancies, and the individual characteristics of the women may be the reason for the difference with the results of other studies.

In the study, it was determined that women who had an unplanned pregnancy and had health problems in their baby had a higher level of prenatal distress. In a study by Yılmaz and Şahin[25], it was determined that the prenatal distress level of pregnant women who had high-risk pregnancies and had health problems during pregnancy was high and that planned pregnancy was not associated with prenatal distress. It is stated that planned pregnancy has an effect on pregnancy stress[3]. In the case of a planned and healthy pregnancy, it is thought that pregnant women can adapt better psychosocially to both the pregnancy process and motherhood.

In this study, the majority of pregnant women reported that they preferred normal delivery. Pregnant women who had higher scores for "Concerns about health care and health status" and "Concerns about baby care and postpartum period" subdimensions of the PDQ stated that they would prefer cesarean delivery. It has been reported by the American College of Obstetricians and Gynecologists (ACOG) that cesarean delivery should be based on obstetric (fetal or maternal) indications, not just on COVID-19 status[23]. It is important to learn about the birth preferences of pregnant women and their concerns about mother-baby health during pregnancy, birth, and the postpartum period that will affect birth preferences.

Limitations of the study

This study may not be generalized to all pregnant women. Since the findings of the study can only be generalized to the research sample, it is recommended to conduct similar studies with larger and different sample groups. The research data were obtained from a questionnaire consisting of closed-ended questions. It is thought that qualitative studies or studies with open-ended questions can more deeply examine the subject.

CONCLUSION

This study revealed that primiparous women experienced moderate fear of coronavirus and prenatal distress. It was determined that fear of coronavirus increases prenatal distress. There was no statistically significant relationship between fear of coronavirus and childbirth preference. Our findings suggest that pregnant women who have prenatal distress and COVID-19 fear can be easily determined by simple questionnaires during prenatal visits, and this can help in having a better pregnancy period.

ACKNOWLEDGMENTS

The authors thank all the patients who participated in the study.

AUTHORS' CONTRIBUTIONS

HA: Conceptualization, Data curation, Formal Analysis, Investigation, Methodology, Writing – original draft, Writing – review & editing. **MT:** Conceptualization, Data curation, Formal Analysis, Investigation, Methodology, Writing – original draft, Writing – review & editing

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