ORIGINAL PAPER
ORYGINALNY ARTYKUŁ NAUKOWY

Health Prob Civil. 2023, Volume 17, Issue 1
ISSN 2353-6942

DETERMINATION OF FEAR OF COVID-19 AND DISTRESS LEVELS OF PREGNANT WOMEN ADMITTED TO OBSTETRICS EMERGENCY DEPARTMENTS

OKREŚLENIE POZIOMU LĘKU PRZED COVID-19 I STRESU U KOBIET CIĘŻARNYCH PRZYJMOWANYCH NA POŁOŻNICZE ODDZIAŁY RATUNKOWE

Tuğba Öz[1,2(A,B,C,D,E,F,G)], **Özlem Bakan Demirel**[1(A,B,C,D,E,F,G)], **Yeliz Ildır Altun**[1,3(C)], **Dilek Coşkuner Potur**[4(A,B,C,D,E,F,G)], **Ayşegül Ünal**[5(B)]

[1] Department of Obstetrics and Gynecology Nursing, Institute of Health Sciences, Marmara University, Istanbul, Türkiye
[2] Department of Nursing, Faculty of Health Sciences, Istanbul Esenyurt University, Istanbul, Türkiye
[3] Department of Nursing, Suşehri School of Health, Sivas University, Sivas, Türkiye
[4] Division of Nursing, Department of Obstetrics and Gynecology Nursing, Faculty of Health Sciences, Marmara University, Istanbul, Türkiye
[5] Obstetrics Emergency Department, Zeynep Kamil Women and Children's Hospital, Istanbul, Türkiye

Authors' contribution
Wkład autorów:
A. Study design/planning
zaplanowanie badań
B. Data collection/entry
zebranie danych
C. Data analysis/statistics
dane – analiza i statystyki
D. Data interpretation
interpretacja danych
E. Preparation of manuscript
przygotowanie artykułu
F. Literature analysis/search
wyszukiwanie i analiza literatury
G. Funds collection
zebranie funduszy

Tables: 4
Figures: 0
References: 42
Submitted: 2022 Nov 8
Accepted: 2023 Jan 3

Summary

Background. The aim of this study was to determine the fear of Covid-19 and pregnancy distress levels experienced by pregnant women who were admitted to the obstetrics emergency service during the pandemic.
Material and methods. This descriptive study was conducted using the face-to-face interview technique with 194 pregnant women who met the inclusion criteria of the study and were admitted to the Obstetrics Emergency Service of the University of Health Sciences Zeynep Kamil Gynecology and Pediatrics Training and Research Hospital in Türkiye between December 2020 and February 2021.
Results. The mean age of the pregnant women included in the study was 28.37, and 51.1% of them were found to be multiparous. The mean Fear of Covid-19 Scale (FCV-19S) of the pregnant women was 19.50±6.64 and the mean Tilburg Pregnancy Distress Scale (TPDS) was 34.79±6.82. It was determined that the educational status of the pregnant women differed statistically significantly (p<0.05) according to the FCV-19S. It was found that there is a positive and strong relationship between the FCV-19S and the TPDS (r=0.216; p=0.002) and "Negative Affect" (r=0.211; p=0.003).
Conclusions. During the Covid-19 pandemic period, the Covid-19 fear and distress levels of the pregnant women who were admitted to the Obstetrics Emergency Service were determined as moderate. Since the fear of Covid-19 has an effect on pregnancy distress levels, it is recommended that nurses should be aware of the distress experienced by pregnant women and be their pregnancy support.
Keywords: Covid-19, distress, obstetrics, emergency, pregnancy, nursing

Streszczenie

Wprowadzenie. Celem niniejszego badania było określenie lęku przed Covid-19 oraz poziomu stresu ciążowego u ciężarnych kobiet, które zostały przyjęte na położnicze oddziały ratunkowe w trakcie pandemii.
Materiał i metody. Niniejsze opisowe badanie zostało przeprowadzone techniką wywiadu bezpośredniego z 194 kobietami ciężarnymi, które spełniły kryteria włączenia do badania i zostały przyjęte na położniczy oddział ratunkowy szpitala Zeynep Kamil Gynecology and Pediatrics Training and Research Hospital Uniwersytetu Nauk o Zdrowiu w Turcji w okresie od grudnia 2020 do lutego 2021 r.
Wyniki. Średni wiek kobiet ciężarnych objętych badaniem wynosił 28,37 lat, z czego 51,1% okazało się być wieloródkami. Średni wynik w skali lęku przed Covid-19 (SLCV-19) u kobiet w ciąży wyniósł 19,50±6,64, a średni wynik w skali poziomu stresu u kobiet ciężarnych Tilburga (SPSKCT) wyniósł 34,79±6,82. Stwierdzono, że status edukacyjny ciężarnych różnił się w sposób istotny statystycznie (p<0,05) według SLCV-19. Zaobserwowano, że istnieje pozytywny i silny związek między wynikiem w SLCV-19 oraz w SPSKCT (r=0,216; p=0,002) a „Afektem Negatywnym" (r=0,211; p=0,003).
Wnioski. W okresie pandemii Covid-19, poziom lęku przed Covid-19 i stresu u kobiet ciężarnych przyjętych na położniczy oddział ratunkowy określono jako umiarkowany. Ponieważ lęk przed Covid-19 ma wpływ na poziom stresu związanego z ciążą, zaleca się, aby pielęgniarki były świadome stresu doświadczanego przez kobiety w ciąży i stanowiły dla nich wsparcie.
Słowa kluczowe: Covid-19, stres, położnictwo, pogotowie, ciąża, pielęgniarstwo

Öz T, Bakan Demirel Ö, Ildır Altun Y, Coşkuner Potur D, Ünal A. Determination of fear of Covid-19 and distress levels of pregnant women admitted to obstetrics emergency departments. Health Prob Civil. 2023; 17(1): 36-48. https://doi.org/10.5114/hpc.2023.124084

Address for correspondence / Adres korespondencyjny: Tuğba Öz, Department of Nursing, Faculty of Health Sciences, Istanbul Esenyurt University, Adile Naşit Blv. No: 1, 34510 Esenyurt, Istanbul, Türkiye, e-mail: tugbaoz@esenyurt.edu.tr, phone: +90 44 49 123
ORCID: Tuğba Öz https://orcid.org/0000-0002-9445-4841, Özlem Bakan Demirel https://orcid.org/0000-0002-9516-9196, Yeliz Ildır Altun https://orcid.org/0000-0003-4901-7332, Dilek Coşkuner Potur https://orcid.org/0000-0002-2186-4663

Introduction

The Covid-19 virus, which is in the beta corona virus (beta-coronavirus) family that includes SARS-CoV and MERS-CoV, emerged in Wuhan, China in December 2019, and quickly affected the whole world in a short time. It was declared as a pandemic (global epidemic) in March 2020 [1]. This virus, which is transmitted by droplet infection, affects acute and long-term physical and mental health. In studies, it has been observed that people's fear, anxiety and stress increased during the emergence of the epidemic and at the peak of the number of cases [2]. Social isolation, the most basic measure taken against the epidemic during the pandemic process, changed the lifestyle and habits of societies to an unusual degree. Due to the compulsory isolation experienced in this process, people's social relations diminished, and their feelings of stress, anxiety, fear of death and loneliness increased. Considering the protective role of social relations in mental health, the negative mental effects of the epidemic appeared to have been inevitable. The fact that the Covid-19 virus cannot be seen with the naked eye, that individuals in all segments of society are at risk and that its mortality is high has turned the epidemic into a global trauma.

Pregnancy in a woman's life is a period in which many physical, social and emotional changes are experienced, body image deteriorates, financial and social support deficiencies are experienced, and ambivalent feelings are experienced. The concept of psychological distress is defined as stress, anxiety or even depression. It is a common problem in women of reproductive age. According to the meta-analysis results of 59 studies examining the prevalence of psychological distress during pregnancy, it was stated that it is between 8% and 24% of women in industrialized countries [3]. Gavin et al. in their study determined that 13%-25% of pregnant women in developed countries experience episodes of psychological distress such as depression and anxiety disorders [4]. Richter et al. found that the prevalence of psychological distress in pregnant women ranged from 41.7% to 51% [5]. In different studies examining the rate of depression in pregnant women, the incidence of depressive symptoms in Hungary is 17.9% [6], 20% in the USA [7], 25% in Canada [8], and 30% in Finland [9], while in Türkiye this rate was found to be 27.3% [10]. The prevalence of stress, anxiety and depression in the prenatal period was reported as 12%, 28% and 31%, respectively [5].

It has been stated that stress experienced during pregnancy causes preterm births and low birth-weight in babies by stimulating the placenta and the pituitary-adrenal axis of the mother. It has been reported that anxiety experienced during pregnancy causes preterm labor, low birth-weight and development of polyhydramnios, as well as variable APGAR scores, fetal hemodynamic and movement disorders, premature rupture of membranes, cervical dyskinesia, and caesarean delivery. It has been noted that somatic problems (such as nausea, headache, backache) are more common in pregnant women with anxiety than in pregnant women without anxiety [11]. Complications due to depression in pregnancy include preterm birth, preeclampsia, slowdown in fetal growth rate, spontaneous abortion, antenatal bleeding, increased uterine artery resistance, low APGAR score, spontaneous preterm birth, fetal death, delivery of a baby small for gestational age [12]. Depression during pregnancy has also been found to be associated with conditions such as caesarean delivery or forceps interventions, birth more painful than normal, and the need for more epidural analgesia [13].

In antenatal care services, besides their physical follow-up, the mental status of new mothers during the Covid-19 pandemic should also be evaluated, and they should be evaluated with a holistic approach. The importance of the holistic evaluation of pregnant women who are exposed to social isolation during the Covid-19 pandemic and are afraid to even go to their routine check-ups should not be forgotten. Distress during pregnancy is a condition that needs to be emphasized and intervened by early diagnosis because it adversely affects fetal and maternal health.

In view of the above, it was decided to conduct a study to determine the Covid-19 fear levels experienced by pregnant women who were admitted to the emergency service during the pandemic and to evaluate their pregnancy distress levels.

Questions expected to be answered in the study:

1. Does the fear of Covid-19 defined by pregnant women have an effect on pregnancy distress levels?
2. Does the educational status of a pregnant woman have an effect on the Covid-19 fear and pregnancy distress levels?
3. Does the demographic data of the pregnant women have an effect on the Covid-19 fear and pregnancy distress levels?
4. Does the Covid-19 experience of pregnant women have an effect on their Covid-19 fear and pregnancy distress levels?

Material and methods

Research type

The descriptive, cross-sectional study was carried out between 15th December 2020 and 15th February 2021.

Research population and sample

The population of the study is that of healthy pregnant women who applied to the obstetric emergency service at Women and Child Disease Training and Research Hospital in Istanbul, Türkiye, between 15th December 2020 and 15th February 2021.

Power analysis was performed using the G*Power (3.1) program to determine the sample of the study. For the sampling calculation, the data from the study by Çapık et al. on the determination of the distress level in pregnant women were used [14]. In the study of Çapık et al., the distress rate of pregnant women was found to be 11.9% [14]. The sample calculation was made by using the pregnancy distress scale averages from the study of Çapık et al. [14]. At the α=0.05 level, to get an effect size of 0.671 and 95% power, it was calculated that there should be 162 pregnant women in the study. The study was completed with 194 pregnant women in order to increase the power of the study, in case that some forms were filled in incorrectly or incompletely or the pregnant woman decided not to participate in the study.

Data collection tools

Research data was collected using the face-to-face interview technique with pregnant women who were admitted to the Obstetrics Emergency Service of Women and Child Disease Training and Research Hospital and met the inclusion criteria of the study. The women included in the study participated voluntarily in the research and were at least 18 years old, had at least a primary school education, could communicate in the Turkish language, were pregnant with 12 and above weeks of gestation age and were without a history of risky pregnancy. The average interview with each pregnant woman took about 15-20 minutes.

Descriptive information form

A twelve-question descriptive information form was created by the researchers, in which the participants were asked about their age, education, financial situation, their obstetric information as well as their use of social media and habits of following the news about Covid-19.

Fear of Covid-19 Scale

The Fear of Covid-19 Scale (FCV-19S) was developed by Ahorsu et al. (2020) to measure the fear levels of individuals due to Covid-19. The items on the scale were created based on a comprehensive review of existing scales on fear, experts' assessments, and participant interviews. The scale has a single factor structure and consists of seven Likert-type items (the statements include: "I strongly disagree" (1), "I do not agree" (2), "I neither agree nor disagree" (3), "I agree" (4), and "I strongly agree" (5)). There is no test-oriented item in the scale. The internal consistency of the scale was 0.82 and the test-retest reliability was 0.72. A high score from the scale indicates a high fear of Covid-19 [15]. There is no reverse item in the scale which Turkish validity-reliability was performed by Bakioğlu et al. The total score obtained from all items of the scale reflects the level of Coronavirus (Covid-19) fear experienced by the individual. The scores that can be obtained from the scale range from 7 to 35. A high score from the scale means experiencing a high level of coronavirus fear [16].

Tilburg Pregnancy Distress Scale

Tilburg Pregnancy Distress Scale (TPDS) was developed by Pop et al. in 2011 to determine distress (stress/anxiety/depression) in pregnancy, and the Turkish validity-reliability of the scale was performed by Çapık et al. in 2015 [14]. The Cronbach Alpha value of the scale was found to be 0.83 [14]. The total score that can be obtained from the scale ranges from 0 to 48. A total score of 28 and above according to the cut-off point indicates that the pregnant woman is at risk for distress. Items 3, 5, 6, 7, 9, 10, 11, 12, 13, 14, 16 in the scale were reverse coded.

The scale has two sub-dimensions: "Negative Affect" and "Spousal Involvement". The "Negative Affect" sub-dimension consists of 11 items: 3, 5, 6, 7, 9, 10, 11, 12, 13, 14 and 16. The lowest score that can be obtained from this sub-dimension is 0. The highest score is 33. The "Spousal Involvement" sub-dimension consists of 5 items: 1, 2, 4, 8 and 15. The lowest score that can be obtained from this sub-dimension is 0, and the highest score is 15.

If the score from the scale is above these cut-off points, it helps to define pregnant women as stressed, anxious [14].

Data analysis

Descriptive statistical analyses (mean, standard deviation, median, minimum and maximum values, percentage, etc.) were used in the analysis of the data. The conformity of the data to the normal distribution was analyzed with the ShapiroWilk-W test (when $p<0.05$, the data was considered not to fit the normal distribution). The Mann Whitney U test was used to compare two independent variables that did not fit normal distribution; the Kruskall Wallis H test was used to compare more than two independent variables, and Spearman Correlation Analysis was used to evaluate the relationship between scale scores. Confidence interval was accepted as 95% and significance as $p<0.05$ in all the analyses.

Ethical dimension of the research

The ethics committee approval of the study was obtained from the Clinical Research Ethics Committee of Zeynep Kamil Gynecology and Pediatrics Training and Research Hospital at meeting no. 196 dated 23rd December 2020. The permission to use the FCV-19S and TPDS in the study was obtained respectively from the authors: Ozan Korkmaz [16] and Ayla Çapık [14] via e-mail. After explaining the purpose of the study to the participants, necessary explanations were provided with regard to the following issues: participation in the study was voluntary; personal information would remain confidential; written consent was obtained from those willing to participate, participants could withdraw from the study if they wished.

Results

The average age of the pregnant women participating in the study was 28.37; 41.8% of them were primary school graduates; 75.8% of them were employed and 82% of them had a nuclear family. When the obstetric history of the women was examined, it was found that 51.1% had been pregnant 2-3 times, 36.6% had a child, 6.9% had planned their next pregnancy, 77.8% used social media. It was determined that 92.3% of them followed the news about Covid-19 (Table 1).

Table 1. Distribution of pregnant women by individual and obstetric characteristics

Age groups (M=28.37; min: 17; Max: 40)	**n**	**%**
22 and below	22	11.3
23-26	55	28.4
27-30	56	28.9
31-35	41	21.1
36 and over	20	10.3
Education		
Primary education	81	41.8
High school	50	25.8
University	63	32.4
Spouse's education		
Primary education	81	41.8
High school	63	32.4
University	50	25.8
Employment status		
Worker	147	75.8
Inoperative	47	24.2
Family type		
Nuclear family	159	82.0
Extended family	35	18.0
Number of pregnancies		
0-1	66	34.0
2-3	99	51.1
4 and over	29	14.9
Number of living children		
1	90	46.4
2	71	36.6
3	33	17.0
Conception status		
Willing	188	96.9
Unwilling	6	3.1
Social media usage		
Yes	151	77.8
No	43	22.2
Following news about Covid-19		
Yes	179	92.3
No	15	7.7

FCV-19S mean of pregnant women is 19.50±6.64 and the TPDS mean is 34.79±6.82. Whereas the mean score of the TPDS "Negative Affect" sub-dimension was 24.91±6.11, the "Spousal Involvement" sub-dimension was 9.89±3.39 (Table 2).

Table 2. FCV-19S, TPDS and its sub-dimensions scores of pregnant women (n=194)

Scales	M±SD	min-max
FCV-19S	19.50±6.64	7-35
TPDS	34.79±6.82	21-54
"Negative Affect" sub-dimension	24.91±6.11	14-44
"Spousal Involvement" sub-dimension	9.89±3.39	5-20

In Table 3, the participants' education and employment status, voluntary pregnancy and following the news about Covid-19 were compared in the study using the FCV-19S, TPDS and its sub-dimensions. While the difference in educational status according to the FCV-19S was found to be statistically significant (p<0.05), it was found that the difference according to the TPDS and its sub-dimensions was statistically insignificant (p>0.05). The difference between the employment status of the pregnant women according to the FCV-19S, TPDS and its sub-dimensions was found to be statistically insignificant (p>0.05). While the difference in the "Negative Affect" dimension, which is the TPDS sub-dimension, was found to be insignificant (p>0.05), the difference in terms of TPDS (p<0.05) and "Spousal Involvement" dimension (p<0.05) was statistically significant. In addition, it was determined that the participants' status with respect to following the news about Covid-19 was insignificant compared their standing in this respect according to the TPDS and its sub-dimensions (p>0.05).

Table 3. Differentiation of FCV-19S, TPDS and its sub-dimensions according to the characteristics of pregnant women

Characteristics of the pregnant women (n=194)	TPDS				"Negative Affect" sub-dimention				"Spousal Involvement" sub-dimension				FCV-19S			
	n	M±SD	min-max	F/t, *p*	n	M±SD	min-max	F/t, *p*	n	M±SD	min-max	F/t, *p*	n	M±SD	min-max	F/t, *p*
Education																
Primary education	81	35.88±6.47	23-50	F=2.615	81	25.37±5.83	14-41	F=0.755	81	10.51±3.60	5-20	F=2.945	81	20.69±7.45	7-35	**F=4.743**
High school	50	34.94±6.99	24-54	*p*=0.076	50	25.12±6.86	14-44	*p*=0.471	50	9.82±3.08	5-18	*p*=0.055	50	20.16±6.23	8-32	***p*=0.010**
University	63	33.29±6.96	21-49		63	24.14±5.83	15-38		63	9.14±3.22	5-20		63	17.44±5.35	7-29	
Employment Status																
Worker	147	34.90±6.72	23-54	F=0.141	147	24.91±6.12	14-44	F=0.000	147	9.99±3.28	5-20	F=0.526	147	19.99±6.73	7-35	F=3.292
Inoperative	47	34.47±7.19	21-49	*p*=0.708	47	24.89±6.12	15-40	*p*=0.986	47	9.57±3.71	5-20	*p*=0.469	47	17.98±6.18	9-31	*p*=0.071
Conception status																
Willing	188	34.58±6.74	21-54	**t=6.144**	188	24.81±6.07	14-44	t=1.594	188	9.77±3.35	5-20	**t=7.285**	188	19.36±6.59	7-35	t=2.657
Unwilling	6	41.50±6.35	33-49	***p*=0.014**	6	28.00±6.87	21-36	*p*=0.208	6	13.50±2.59	10-17	***p*=0.008**	6	23.83±7.63	16-34	*p*=0.105
Following news about Covid-19																
Yes	179	34.68±6.68	21-49	t=0.690	179	24.87±5.90	14-40	t=0.079	179	9.80±3.44	5-20	t=1.365	179	19.74±6.56	7-35	t=3.133
No	15	36.20±8.50	25-54	*p*=0.407	15	25.33±8.41	15-44	*p*=0.779	15	10.87±2.45	7-15	*p*=0.244	15	16.60±7.15	7-32	*p*=0.078

Table 4 shows a positive and strong relationship between the age groups of the participants and the number of pregnancies (r=0.380; *p*=0.000). It can be stated that the number of pregnancies has a positive and moderate relationship with the FCV-19S (r=0.165; *p*=0.022) and the "Spousal Involvement" sub-dimension (r=0.174; *p*=0.016). There is a positive and strong relationship between the FCV-19S, TPDS (r=0.216; *p*=0.002) and "Negative Affect" sub-dimension (r=0.211; *p*=0.003). It is seen that the whole TPDS scale has a positive and strong relationship with "Negative Affect" (r=0.869; *p*=0.000) and "Spousal Involvement" sub-dimensions (r=0.448; *p*=0.000).

Table 4. Correlation of scales and correlation levels of variables

		Age	Number of pregnancies	FCV-19S	TPDS	"Negative Affect"	"Spousal Involvement"
Age	**r**		.380**	.090	-.047	-.089	.066
	p	1	**.000**	.214	.512	.216	.364
	n		194	194	194	194	194
Number of pregnancies	**r**			.165*	,007	-.089	.174*
	p		1	**.022**	.925	.219	**.016**
	n			194	194	194	194
FCV-19S	**r**				.216**	.211**	.055
	p			1	**.002**	**.003**	.449
	n				194	194	194
TPDS	**r**					.869**	.448**
	p				1	**.000**	**.000**
	n					194	194

Notes: * Correlation is significant at the 0.05 level (2-tailed); ** Correlation is significant at the 0.01 level (2-tailed).

Discussion

The pregnancy period, which is a difficult process in terms of physiological, psychological and social aspects, has become more complex with the effect of the Covid-19 pandemic [17,18]. This study was conducted to evaluate the fear of Covid-19 and the level of distress experienced during pregnancy by pregnant women who applied to the gynecology service during the pandemic and to provide the necessary support to pregnant women in this regard.

In our study, the mean FCV-19S score of pregnant women was 19.50±6.64 (Table 2). Since the minimum score that can be obtained from the scale is 7 and the maximum score is 35, it can be said that the participants in the study were afraid of the coronavirus. In the study of Eroğlu et al., the mean score was 21.39±6.38 [19], whereas Kaplan et al. found the score to be 18.33±7.15 [20]. In a study conducted in Ethiopia, the mean score of 27.1±5.2 was reported [21], and in another study, conducted among 250 pregnant women in Iran, the mean score was found to be 22.29±7.08 [22]. At the time of the research, there were limited studies on the fear and anxiety caused by the pandemic in pregnant women. However, it is noteworthy that the results of the studies are close to each other. Although the level of fear and anxiety caused by the Covid-19 pandemic is acceptable, it is normal for pregnant women to experience more anxiety and fear, with the instinct to protect their babies.

In the literature, there are also studies reporting that women are more afraid of Covid-19 than men and that it may negatively affect mental health and trigger depression and anxiety [23,24]. Because of the fact that the levels of depression and anxiety are found to be higher in women compared to men in studies, it can be thought that the psychological effect of the Covid-19 pandemic may be greater on women, and therefore, women who are pregnant during the pandemic will be particularly affected by the Covid-19 outbreak. In a study conducted in China, it was reported that 94.6% of pregnant women were afraid of being infected with Covid-19, 14.7%

requested psychological counseling and 87.7% postponed their doctor's follow-ups in order to stay away from crowded places [25]. In a study conducted in Italy, it was determined that more than half of the pregnant women were severely anxious [26]. In Türkiye, Durankuş et al. also reported that the pandemic process caused an increase in depression and anxiety levels in pregnant women [27].

In our study, the mean TPDS score was 34.79±6.82 (Table 2), while the total score that could be obtained from the TPDS ranged from 0 to 48. Since the total score of 28 and above according to the cutoff point is interpreted as the pregnant woman at risk for distress, it can be said that in our study the distress levels of the pregnant women were high. In the study by Capik et al., the mean TPDS score for pregnant women was 18.86±7.37 [14], Bacacı et al. reported the mean TPDS score of 20.02±6.28 [28], Dundar et al. found the mean TPDS score to be 13.48±8.60 [29], and in the study of Kızoğlu et al. the mean TPDS score was 14.23±7.8 [30].

In the studies on distress, anxiety and depression in pregnant women conducted in Türkiye, the prevalence ranges from 11.9% to 34.1% [10,31,32]. In the studies conducted in other countries, the prevalence is recorded to be between 9.9% and 35.8%, which is similar to those reported in Türkiye [6,33-37]. The reasons why our study is different from other studies conducted in Türkiye and abroad include the fact that the other studies were carried out at the beginning of the Covid-19 pandemic when there were uncertainties about the mechanism of the virus transmission and its possible consequences.

In our study, the mean score of the TPDS "Negative Affect" sub-dimension was 24.91±6.11, while the "Spousal Involvement" sub-dimension was 9.89±3.39 (Table 2). In the study by Çapık et al. the mean scores in these sub-dimensions were accordingly 13.64±6.40 and 5.22±3.47 [14]. Bacacı et al. reported the mean scores of 13.81±5.69 and 6.20±2.77 [28], while Kızoğlu et al. the mean socres of 9.40±6.36 and 4.83±3.33 [30]. The feeling of unknown brought about by the Covid-19 pandemic added to the negativities experienced due to the physical, psychological and social changes that occur in the mother during pregnancy. This, on the other hand, affects the adaptation of mothers to the pregnancy, and generates negative thoughts in mothers about the birth and anxiety about her own health and health of her baby at birth, which generally causes distress in the pregnant woman. The fact that the mean score of the "Spousal Involvement" sub-dimension is also low in the "Negative Affect" sub-dimension may indicate that the women received good spousal support during this period.

The participants education and employment status, voluntary pregnancy and following the news about Covid-19 were compared in the study using the FCV-19S, TPDS and its sub-dimensions (Table 3). While the difference of educational status according to FCV-19S was found to be statistically significant ($p<0.05$), it was found that the difference according to the TPDS and its sub-dimensions was statistically insignificant ($p>0.05$). In the study of Durankuş et al., it was concluded that low education level is a common risk factor for the Covid-19 pandemic in terms of depression and anxiety [27]. In Geren's study, no significant difference was found in educational status, occupation, and in state and trait anxiety scores [38]; and in Dule's study, no significant difference was found between education status, occupation, and fear scores [21]. This can be explained by the fact that pregnant women with a high level of education have more knowledge and awareness of the reality and consequences of the Covid-19 pandemic.

The difference between the employment status of the pregnant women according to the FCV-19S, TPDS and its sub-dimensions was found to be statistically insignificant ($p>0.05$). Contrary to our study, Mortazavi et al. reported that anxiety was higher in working women [39]. Maharlouei et al. also found that the Covid-19 anxiety of working pregnant women was significantly higher [22]. In the study of Cigaran et al., statistically significant results were reported that women who continued to work during the pandemic felt more afraid of Covid-19 [40]. The fact that in our study we obtained results different from those in the literature can be associated with the time of the studies. In support of this idea, Mortazavi et al. reported in their study that pregnant women who participated in the study during the first wave of Covid-19 had a higher level of anxiety than those who participated during the second wave of the disease [39].

It has been reported that the desirability of pregnancy affects distress during pregnancy and that willingness to be pregnant reduces the distress rate [10,41,42]. In our study, in case of the women who became pregnant voluntarily, the difference in terms of the TPDS (p<0.05) and "Spousal Involvement" sub-dimension (p<0.05) was statistically significant, while the difference in "Negative Affect" sub-dimension was found to be insignificant (p>0.05). It can be concluded that women who have planned and wanted pregnancy have low distress scores and receive more support from their spouses.

Conclusions

Since prenatal distress affects fetal and maternal health negatively, it is a condition that should be emphasized and be subject to intervention by early diagnosis. The Covid-19 pandemic has shown that in prenatal care services, besides the physical follow-up of pregnant women, their mental status should also be evaluated. It must be kept in mind how important it is to conduct holistic evaluation of pregnant women who are afraid to go to their routine examinations and are therefore exposed to social isolation during the Covid-19 pandemic.

The Covid-19 fear and stress level of pregnant women, who were admitted to the obstetrics unit during the Covid-19 pandemic period, was determined as moderate. It should not be forgotten that the fear of Covid-19 increases the support needs of pregnant women, and is also influential in terms of pregnancy distress.

During the pandemic, the most important information sources for the society were social media, Internet and television. It was ensured that training videos were prepared for special groups, and for pregnant women, counseling lines/call centers were created and distance/on-line pregnancy guidance was provided. It is important for nurses to be aware of the distress/anxiety/depression experienced by pregnant women and to support them with coping methods.

Disclosures and acknowledgements

The authors declare no potential conflicts of interest with respect to the research, authorship, and/or publication of this article. This work was funded by the authors.

References:

1. World Health Organization. Coronavirus disease (Covid-19) advice for the public [Internet]. Geneva: WHO; 2020 [access 2020 Nov 13]. Available from: https://www.cdc.gov/coronavirus/2019-ncov/needextra-precautions/people-at-higher-risk.html
2. Rajkumar RP. Covid-19 and mental health: a review of the existing literature. Asian Journal of Psychiatry. 2020; 52, 102066. https://doi.org/10.1016/j.ajp.2020.102066
3. Van Bussel JC, Spitz B, Demyttenaere K. Women's mental health before, during, and after pregnancy: a pop ulation-based controlled cohort study. Birth. 2006; 33(4): 297-302. https://doi.org/10.1111/j.1523-536X.2006.00122.x
4. Gavin NI, Gaynes BN, Lohr KN, Meltzer-Brody S, Gartlehner G, Swinson T. Perinatal depression: a systematic review of prevalence and incidence. Obstetrics & Gynecology. 2005; 106(5-1): 1071-1083. https://doi.org/10.1097/01.AOG.0000183597.31630.db
5. Richter J, Bittner A, Petrowski K, Junge-Hoffmeister J, Bergmann S, Joraschky P, et al. Effects of an early intervention on perceived stress and diurnal cortisol in pregnant women with elevated symptomatology. Journal of Pscyhosomatic Obstetrics and Gynecology. 2012; 33(4):162-70. https://doi.org/10.3109/016748 2X.2012.729111

6. Bodecs T, Horvath B, Kovacs L, Diffellne Nemeth M, Sandor J. Prevalence of depression and anxiety in early pregnancy on a population based hungarian sample. Orvosi Hetilap. 2009; 150(41): 1888-1893. https://doi.org/10.1556/oh.2009.28712
7. Marcus SM, Flynn HA, Blow FC, Barry KL. Depressive symptoms among pregnant women screened in obstetrics settings. Journal of Womens Health. 2003; 12(4): 373-380. https://doi.org/10.1089/154099903765448880
8. Da Costa D, Larouche J, Dritsa M, Brender W. Psychosocial correlates of prepartum and postpartum depressed mood. Journal of Affective Disorders. 2000; 59(1): 31-40. https://doi.org/10.1016/S0165-0327(99)00128-7
9. Kurki T, Hiilesmaa V, Raitasalo R, Mattila H, Ylikorkala O. Depression and anxiety in early pregnancy and risk for preeclampsia. Obstetrics & Gynecology. 2000; 95(4): 487-490. https://doi.org/10.1097/00006250-200004000-00003
10. Karacam Z, Ancel G. Depression, anxiety and influencing factors in pregnancy: a study in a Turkish population. Midwifery. 2009; 25(4): 344-356. https://doi.org/10.1016/j.midw.2007.03.006
11. Altınçelep F. Determination of prenatal distress level in pregnant women. [Master thesis]. Istanbul: İ.Ü. Institute of Health Sciences; 2011.
12. Şahsivar MŞ. Evaluation of depression and quality of life in risky pregnancies. [Specialization thesis]. Konya: Selcuk U. Meram Medical Faculty; 2007.
13. Boybay Koyuncu S. The effect of some socio-demographic and obstetric characteristics on psychosocial health levels in last trimester nulliparous pregnants. [Master thesis]. Konya: Selcuk U. Institute of Health Sciences; 2013.
14. Çapık A, Apay SE, Sakar T. Determination of distress level in pregnant women. Anatolian Journal of Nursing and Health Sciences. 2015; 18(3): 196-203. https://doi.org/10.17049/ahsbd.97570
15. Kwasi Ahorsu D, Lin CY, Imani V, Saffari M, Griffiths MD, Pakpour AH. The fear of Covid-19 scale: development and initial validation. International Journal of Mental Health and Addiction. 2020; 20: 1537-1545. https://doi.org/10.1007/s11469-020-00270-8
16. Bakioğlu F, Korkmaz O, Ercan H. Fear of Covid-19 and positivity: mediating role of intolerance of uncertainty, depression, anxiety, and stress. International Journal of Mental Health and Addiction. 2021; 19: 2369-2382. https://doi.org/10.1007/s11469-020-00331-y
17. Khan S, Peng L, Siddique R, Nabi G, Nawsherwan Xue M, Liu J, et al. Impact of Covid-19 infection on pregnancy outcomes and the risk of maternal-to-neonatal intrapartum transmission of Covid-19 during natural birth. Infection Control and Hospital Epidemiology. 2020; 41(6): 748-750. https://doi.org/10.1017/ice.2020.84
18. Vivilaki VG, Asimaki E. Respectful midwifery care during the Covid-19 pandemic. European Journal of Midwifery. 2020; 4(April): 8. https://doi.org/10.18332/ejm/120070
19. Eroğlu M, Çıtak-Tunç G, Kılınç F. Examining the relationship between pregnancy stress and fear of Covid-19. Community and Social Service. Covid-19 Special Issue. 2021; 1: 125-139.
20. Kaplan Ö, Kaplan A, Çağlı F, Çetin Ş. The relationship between the Covid-19 and fear levels of pregnant women and the preventive, traditional and complementary medicine practices they use. Journal of İnönü University Vocational School of Health Services. 2022; 10(2): 590-602. https://doi.org/10.33715/inonusaglik.1011876
21. Dule A. Psychological distress among Ethiopian pregnant women during Covid-19: negative correlation with self-efficacy. Psychology Research and Behavior Management. 2021; 14: 1001-1010. https://doi.org/10.2147/PRBM.S317961
22. Maharlouei N, Keshavarz P, Salemi N, Lankarani NW. Depression and anxiety among pregnant mothers in the initial stage of the Coronavirus Disease (Covid-19) pandemic in the southwest of Iran. Reproductive health. 2021; 18(1): 111. https://doi.org/10.1186/s12978-021-01167-y

23. Salehi S, Abedi A, Balakrishnan S, Gholamrezanezhad A. Coronavirus disease 2019 (Covid-19): a systematic review of imaging findings in 919 patients. Ajr Am J Roentgenol. 2020; 215(1): 87-93. https://doi.org/10.2214/AJR.20.23034
24. Bakioğlu F, Korkmaz O, Ercan H. Fear of Covid-19 and positivity: mediating role of intolerance of uncertainty, depression, anxiety, and stress. Int J Ment Health Addiction. 2020; 19: 2369-2382. https://doi.org/10.1007/s11469-020-00331-y
25. Du J, Dong LU, Wang T, Yuan C, Fu R, Zhang L, et al. Psychological symptoms among frontline healthcare workers during Covid-19 outbreak in Wuhan. General Hospital Psychiatry. 2020; 67: 144. https://doi.org/10.1016/j.genhosppsych.2020.03.011
26. Wu Y, Zhang C, Liu H, Duan C, Li C, Fan J, et al. Perinatal depressive and anxiety symptoms of pregnant women during the coronavirus disease 2019 outbreak in China. American Journal of Obstetrics and Gynecology. 2020; 223(2): 1-9. https://doi.org/10.1016/j.ajog.2020.05.009
27. Durankuş F, Aksu E. Effects of the Covid-19 pandemic on anxiety and depressive symptoms in pregnant women: a preliminary study. The Journal of Maternal-Fetal & Neonatal Medicine. 2020; 1-7. https://doi.org/10.1080/14767058.2020.1763946
28. Bacacı H, Apay S. The relationship between body image perception and distress in pregnant women. Duzce University Journal of Health Sciences Institute. 2018; 8(2): 76-82.
29. Dündar T, Özsoy S, Aksu H, Toptaş B. The effect of obstetric features on distress in pregnancy. Anatolian Journal of Nursing and Health Sciences. 2019; 22(1): 17-24.
30. Kizoğlu F, Beydağ KD. Determination of the distress levels of pregnant women who applied for prenatal diagnosis test and baby health control focus. Abant Journal of Health Sciences and Technologies. 2022; 2(1): 18-25.
31. Cebeci SA, Aydemir Ç, Göka E. Depression symptom prevalence in puerperal period: its relationship with obstetric risk factors, anxiety level and social support. Crisis Journal. 2002; 10: 11-18.
32. Çakır L, Can H. The relationship between sociodemographic variables and anxiety and depression levels in pregnancy. Turkish Family Physician. 2012; 3: 35-42.
33. Nasreen HE, Kabir ZN, Forsell Y, Edhborg M. Prevalence and associated factors of depressive and anxiety symptoms during pregnancy: a population based study in rural Bangladesh. BMC Women's Health. 2011; 11(1): 22. https://doi.org/10.1186/1472-6874-11-22
34. Prost A, Lakshminarayana R, Nair N, Tripathy P, Copas A, Mahapatra R, et al. Predictors of maternal psychological distress in rural India: a cross-sectional community-based study. Journal of Affective Disorders. 2012; 138(3): 277-286. https://doi.org/10.1016/j.jad.2012.01.029
35. Aasheim V, Waldenström U, Hjelmstedt A, Rasmussen S, Pettersson H, Schytt E. Associations between advanced maternal age and psychological distress in primiparous women, from early pregnancy to 18 months postpartum. BJOG: An International Journal of Obstetrics and Gynaecology. 2012; 119(9): 1108-1116. https://doi.org/10.1111/j.1471-0528.2012.03411.x
36. Lukasse M, Helbig A, Benth J, Eberhard-Gran M. Antenatal maternal emotional distress and duration of pregnancy. PLoS ONE. 2014; 9(7): e101682. https://doi.org/10.1371/journal.pone.0101682
37. Barton K, Redshaw M, Quigley MA, Carson C. Unplanned pregnancy and subsequent psychological distress in partnered women: a cross-sectional study of the role of relationship quality and wider social support. BMC Pregnancy and Childbirth. 2017; 17(1): 1-9. https://doi.org/10.1186/s12884-017-1223-x
38. Geren A. Evaluation of the severity of anxiety and depression caused by the Covid-19 pandemic in pregnant women. [Specialization thesis in medicine]. Antalya: Akdeniz University Faculty of Medicine; 2020. https://doi.org/10.1186/s12884-021-03548-4

39. Mortazavi F, Mehrabadi M, KiaeeTabar R. Pregnant women's well-being and worry during the Covid-19 pandemic: a cross-sectional study. BMC Pregnancy and Childbirth. 2021; 21(1): 59.
40. Cigaran RG, Botezatu R, Mînecan EM, Gică C, Panaitescu AM, Peltecu G, et al. The psychological impact of the Covid-19 pandemic on pregnant women. Healthcare (Basel, Switzerland). 2021; 9(6): 725. https://doi.org/10.3390/healthcare9060725
41. Şahin EM, Kılıçarslan S. Depression and anxiety levels of last trimester pregnants and factors affecting these. Tarkya University Medical Faculty Journal. 2010; 27(1): 51-58.
42. Büyükkayacı Duman N. Socio-demographic and obstetric factors associated with depression during pregnancy in Turkey. American International Journal of Contemporary Research. 2012; 2(11): 17-26.