



ARAŞTIRMA MAKALESİ
RESEARCH ARTICLE
CBU-SBED, 2024, 11 (4): 531-540

Being Pregnant during the Covid-19 Pandemic: Did the Pandemic Increase Physical and Mental Symptoms?

Kovid-19 Pandemisi Sırasında Hamile Olmak: Pandemi Fiziksel ve Zihinsel Belirtileri Arttırdı mı?

Şenay Öztürk¹, Rabia Sağlam Aksüt²

¹Maltepe University, School of Nursing, Istanbul, Turkey

²Fenerbahçe University, Faculty of Health Sciences, Nursing, Istanbul, Turkey

e-mail: senayozturk@maltepe.edu.tr, rabia.saglam@fbu.edu.tr

ORCID: 0000-0002-4892-8313

ORCID: 0000-0002-8208-6113

*Sorumlu Yazar / Corresponding Author: Şenay Öztürk

Gönderim Tarihi / Received: 19.01.2024

Kabul Tarihi / Accepted: 19.06.2024

DOI: 10.34087/cbusbed.1422529

Öz

Giriş ve Amaç: Covid-19 pandemisi dünya genelinde tüm insanlarda çeşitli sorunlara yol açmıştır. Hassas gruplardan olan gebeler ise bu süreçten daha olumsuz etkilenerek bazı fiziksel ve psikolojik sorunları sıklıkla yaşamışlardır. Bu çalışmanın amacı, Covid-19 pandemisinin hamile kadınların fiziksel ve zihinsel semptomları üzerinde bir etkisi olup olmadığını belirlemektir.

Gereç ve Yöntemler: Bu tanımlayıcı kesitsel çalışma, Aralık 2020 - Mayıs 2021 tarihleri arasında, aynı bölgede bulunan iki birinci basamak aile sağlığı merkezinde 352 gebe ile gerçekleştirilmiştir. Çalışmanın verileri Kişisel Bilgi Formu, Gebelik Semptom Envanteri-PSI, Kısa Semptom Envanteri-BSI ve Görsel Analog Skala-VAS kullanılarak toplanmıştır.

Bulgular: Katılımcıların PSI ve BSI ortalama puanları sırasıyla (28.69 ± 14.46), (0.68 ± 0.47) idi. En yüksek puanların sırasıyla BSI'nin kaygı (0.72 ± 0.63) ve depresyon (0.95 ± 0.71) alt boyutlarından elde edildiği bulunmuştur. Eşlerinden destek alan ve eşleri ile iyi ilişkilere sahip olan kadınların istatistiksel olarak anlamlı düşük zihinsel ve fiziksel semptomlara sahip olduğu bulunmuştur ($p < 0.05$).

Sonuç: Pandemi sırasında hamile kadınların hafif mental ve fiziksel semptomlar yaşadığı bulunsa da, zihinsel semptomlar arasında kaygı ve depresyon semptomları yüksekti. Özellikle eşlerinden destek alan ve eşleri ile iyi ilişkilere sahip olanların daha düşük zihinsel ve fiziksel semptomlar yaşadığı sonucuna göre, riskli grupları belirleme ve uygun müdahalelerde bulunma aşamasında eş desteğinin dikkate alınması önerilmektedir.

Anahtar kelimeler: Gebelik, pandemi, fiziksel semptomlar, zihinsel semptomlar

Abstract

Aim: The Covid-19 pandemic has caused various problems for people all over the world. Pregnant women, who are among the vulnerable groups, have been more negatively affected by this process and have frequently experienced some physical and psychological problems. The aim of this study is to determine whether the Covid-19 pandemic had an effect on the physical and mental symptoms of pregnant women.

Method: This descriptive cross-sectional study was conducted between December 2020 and May 2021 with 352 pregnant women in two primary care family health centers in the same region. The data of the study were collected using the Personal Information Form, the Pregnancy Symptom Inventory-PSI, the Brief Symptom Inventory-BSI, and the Visual Analog Scale-VAS.

Results: The participants' PSI and BSI mean scores were (28.69 ± 14.46), (0.68 ± 0.47), respectively. It was found that the highest scores were obtained from the anxiety (0.72 ± 0.63) and depression (0.95 ± 0.71) sub-

dimensions of the BSI. It was found that those women who received support from their husbands and had good relationships with their husbands had statistically significantly lower mental and physical symptoms ($p < 0.05$).

Conclusion: Although it was found that the pregnant women experienced mild mental and physical symptoms during the pandemic, anxiety and depression symptoms were high among the mental symptoms. Especially those who received support from their spouses and had good relationships with them experienced lower mental and physical symptoms; therefore, it is recommended that spousal support should be considered when identifying risky groups and making appropriate interventions.

Keywords: Pregnancy, pandemic, physical symptoms, mental symptoms

1. Introduction

The Covid-19 pandemic affected all people physically and emotionally in the global context [1]. The Covid-19 pandemic had a significant impact on pregnant women, a vulnerable group, both directly through the risk of infection and indirectly due to changes in healthcare services, social policies, and socio-economic conditions [2]. When examining the changes in physical symptoms experienced during pregnancy amidst the pandemic, research findings indicate similarities between symptoms reported before and during the pandemic, such as nausea, vomiting, heartburn, fatigue, breast pain and tenderness, insomnia, increased vaginal discharge [3], food cravings, frequent urination, and back pain [4]. However, it is noted that the severity of these symptoms may continue to be influenced by specific features unique to pregnant women. In addition, it has been stated that physical symptoms related to pregnancy are effective on anxiety and depression in pregnant women both in the pre-pandemic period and during the pandemic period, and that the severity of anxiety and depression increases in pregnant women experiencing severe physical symptoms [5-10].

The World Health Organization (WHO) indicates that around 10% of pregnant women and 13% of women who have just given birth worldwide suffer from a mental disorder, primarily depression [11]. While most women can adapt to the physiological, psychological, and social changes that occur due to pregnancy, some may experience mental problems at various levels. In particular, anxiety and stress are among the factors that may adversely affect the well-being and psychosocial health of mothers and babies during pregnancy [12]. Many studies have reported that psychological stress during pregnancy is associated with preterm birth, low birth weight, fetal growth retardation, and postpartum complications [13].

It is a well-known fact that pandemics negatively affect psychological health by causing high-stress levels [14]. Various psychological problems and mental health outcomes have been observed during the Covid-19 pandemic, including stress, anxiety, depression, frustration, boredom, insomnia, anger,

post-traumatic stress disorder, loneliness, and uncertainty [15]. It is pointed out that pregnant women who have additional concerns about protecting the health of themselves and their unborn babies felt these effects more, especially during the Covid-19 pandemic [16-18]. In a study, it was indicated that some mental illnesses increased in pregnant women after Covid-19 [19]. In addition, it was underlined that the anxiety of pregnant women about transmission was high and that these processes may lead to more psychological pressure and more complex psychological problems, which may affect physical symptoms as well [20].

Since the likelihood of psychological distress, depression, and anxiety symptoms is significantly higher in pregnant women, it is thought that these problems may have increased after the Covid-19 pandemic [21]. Given the findings in the literature and the significant impact of the COVID-19 pandemic on pregnant women, this study aims to investigate the physical and mental effects of the pandemic on this vulnerable population

Research questions

1. Did the Covid-19 pandemic increase the physical and mental symptoms associated with pregnancy in pregnant women?

2. Methods

2.1. Study Design and Participants

This descriptive cross-sectional study was conducted between December 2020 and May 2021 to determine whether the Covid-19 pandemic increased the physical and mental symptoms seen in pregnant women. The population of the study consisted of all pregnant women who were followed up by two central district Family Health Centers affiliated to the Istanbul Provincial Health Directorate Public Health Services. Due to pandemic conditions, permission could only be obtained from two primary health care centers to conduct the research. Therefore, the population of the study consisted of pregnant women registered at these two primary health care centers. During the period of the study, there were 1581 pregnant

women registered at these two primary health care centers. Due to the pandemic, 567 were able to reach the center for follow-up, 96 refused to participate in the study, 57 did not meet the inclusion criteria, and 62 could not be reached by phone later and were therefore excluded from the research. Sample selection was conducted, and 352 pregnant women who were (1) between 12-40 weeks of pregnancy, (2) were willing to participate in the study, (3) had no communication problems, (4) were coming to the centers for follow-up, and (5) did not have a psychiatric diagnosis were included in the study.

2.2. Data Collection Tools

The data of the study were collected using the Personal Data Form, the Brief Symptom Inventory (BSI), the Pregnancy Symptom Inventory (PSI), and the Visual Analog Scale (VAS).

Personal Data Form: The form designed by the researchers includes questions covering various aspects such as age, gestational week, education level, employment status, presence of chronic diseases, family type (nuclear or extended), concerns about infecting the baby and oneself, presence of a supportive person, and relationship status with the husband.

Visual Analogue Scale (VAS): The VAS, in its simplest form, consists of a horizontal straight line of 100 mm, and is usually defined from left to right when evaluating a wide variety of parameters such as symptoms, pain, health status. In this study, the Visual Analog Scale (VAS) and the Personal Information Form were administered face-to-face. The VAS was used for the questions "Anxiety of being infected by the virus" and "Anxiety about infecting the baby".

Brief Symptom Inventory (BSI): Developed by Derogatis (1992), the Brief Symptom Inventory was adapted into Turkish population in 1994, and its validity and reliability studies were conducted by Şahin and Durak to evaluate mental symptoms [22]. Items are graded between 0-4 values corresponding to "not at all" and "very much". The scale is a form consisting of 53 items. The score range of the scale varies between "0-212". It is evaluated that the higher the score is, the higher the frequency of mental symptoms is. Five sub-dimensions of the BSI were determined as "Anxiety, Depression, Negative self, Somatization and Hostility". When the score obtained from each subscale is divided by the number of questions in that scale, if it is 1.5 and above, it indicates the presence of a pathological condition in that subscale. In this study, the Cronbach alpha coefficient of the scale was found to be 0.92.

Pregnancy Symptom Inventory (PSI): The Turkish validity-reliability study of the PSI, which was developed by Foxcroft et al. in 2013, was conducted by Gürkan and Güloğlu [23-24]. The PSI evaluates 42 common symptoms during pregnancy. Pregnant women are asked to evaluate the questions in the

inventory, considering the last month. There is no sub-dimension in the original PSI. There are 42 items in the scale, and it is evaluated in a 4-point Likert type. Each symptom is scored between 0-3 (never (0), rarely (1), occasionally (2), and often (3)). The total score that can be obtained from the PSI ranges from 0 to 126. An increase in the PSI score is interpreted as an increase in the frequency of experiencing symptoms, and a decrease in the score is interpreted as a decrease in the frequency of experiencing symptoms. In this study, the Cronbach alpha coefficient of the scale was found to be 0.86.

2.3. Data Collection

Since the Covid-19 pandemic was continuing in Türkiye at the time of data collection, the face-to-face interview and telephone interview methods were used together in the data collection process. The first interview was conducted face-to-face with the pregnant women who applied to the Family Health Care Center for routine pregnant follow-ups, and detailed information about the study was given to them. A personal data form was applied to the pregnant women who read and signed the consent form. Due to the sensitivity of pregnant women to stay as little as possible in health care institutions due to the pandemic, the pregnant women who filled out the personal data form were informed that they would be called within a few days; therefore, the contact information of the pregnant women was obtained at the end of the face-to-face interview. The Brief Symptom Inventory and the Pregnancy Symptom Inventory were applied to the pregnant women who were called a few days after the first interview, and the interviews lasted approximately 20-25 minutes.

2.4. Ethical Consideration

Ethical approval for the study was granted by the Maltepe University Ethics Committee on October 16, 2020, under decision number 2020/12-01. In addition, in line with the recommendation of the Ethics Committee, an application was made to the "Covid-19 Scientific Research Evaluation Commission" established within the Ministry of Health, General Directorate of Health Services, and necessary permission was obtained. Informed consent forms were signed by the participants who agreed to participate in the study.

2.5. Data Analysis

The data were analyzed using the SPSS for Windows 22.0 software package. Various statistical tests were employed for analysis, including t-tests and Mann-Whitney U tests for comparing numerical values, percentages, minimum and maximum values, means, standard deviations, and pairwise groups. Additionally, Analysis of Variance (ANOVA) with Least Significant Difference (LSD) post-hoc test when variance homogeneity was met, and Dunnett C post-hoc test when not met, were utilized for comparing multiple groups. Kruskal-Wallis analysis was used with Mann-Whitney U test

as a post-hoc analysis for non-parametric data. Pearson and Spearman correlation analyses were conducted for relational inferences, while kurtosis, skewness coefficients, and Cronbach's α coefficients were utilized to assess the normality distribution of the data.

3. Results and Discussion

3.1 Results

As shown in Table 1, the mean age of the participants was 29.30 ± 5.45 ; the mean gestational week was 25.06 ± 8.03 , the concern about infection was 6.32 ± 2.80 , the concern about infecting the baby was 6.48 ± 2.97 . 45.2% of them were high school

graduates, 85.2% were living in nuclear families, and 9% of them were diagnosed with chronic diseases before pregnancy. 79.8% of the participants received support from their spouses, and 55.1% reported that their relationship with their spouses during the Covid process remained "good" as before.

As seen in Table 1, the participants scored 0.72 ± 0.63 for the Anxiety subscale, 0.95 ± 0.71 for the Depression subscale, 0.45 ± 0.60 for the Negative Self subscale, 0.71 ± 0.54 for the Somatization subscale, 0.55 ± 0.53 for the Hostility subscale, 0.68 ± 0.47 for the BSI total score, and 28.69 ± 14.46 for the PSI total score.

Table 1. Demographic Characteristics, and BSI and PSI Mean Scores of Participants

		n	%
Education status	Primary school	10	2.8
	Elementary School	99	28.1
	High school	159	45.2
	University	84	23.9
Work status	Full time	24	6.8
	Part time	23	6.5
	Working remotely due to pandemic	28	8.0
	Quitted work due to pandemic	60	17.0
	Not working	217	61.6
Chronic disease	Yes	32	9.1
	No	320	90.9
Supporting individual	Spouse	281	79.8
	Own family	53	15.1
	Friend	6	1.7
	Neighbor	4	1.1
	No one	8	2.3
Relationship with spouse during the pandemic	Got better	129	36.6
	Went bad	29	8.2
	Good as before	194	55.1
Family Type	Nuclear	300	85.2
	Extended	52	14.8
Numeric Variables	Min.	Max.	X \pm SD.
Age	17	43	29.30 ± 5.45
Gestational week	5	38	25.06 ± 8.03
Anxiety of being infected by the virus	0	10	6.32 ± 2.80
Anxiety about infecting the baby	0	10	6.48 ± 2.97
BSI Sub-dimensions			
Anxiety	0.00	2.85	0.72 ± 0.63
Depression	0.00	2.92	0.95 ± 0.71
Negative Self	0.00	2.33	0.45 ± 0.60
Somatization	0.00	2.67	0.71 ± 0.54

Hostility	0.00	2.71	0.55 ± 0.53
BSI Total	0.00	2.34	0.68 ± 0.47
PSI Total	4.00	72.00	28.69 ± 14.46

Table 2 presents a comparison of the participants' demographic characteristics and the scores obtained from the BSI and PSI scales along with some continuous variables.

The participants who received support from their spouses had lower BSI (0.64±0.44) and PSI (27.53±14.09) total scores compared to those who did not receive support. In the advanced analysis (LSD) conducted to determine from which group the difference in the Anxiety subscale of BSI originated according to the presence of support, it was found that the scores of those who received support from their spouses were lower than those who received support from other sources such as family, neighbors, etc.

It was found that the total BSI (0.59±0.38) and PSI (26.08±12.63) scores of the participants whose relationship with their spouses remained good during the Covid-19 process were statistically significantly lower than those of others. In the advanced analysis conducted to determine from which group the difference in the relationship status originated according to the presence of support, it was found that the scores of those whose relationship deteriorated were higher than those who responded good or remained good as before (Table 2).

It was determined that there was a statistically significant, low-level, and negative correlation between age and the mean score of the Negative Self sub-dimension of the BSI ($r=0.125$, $p=0.019$) and the Somatization sub-dimension ($r=0.146$, $p=0.006$). There was a statistically significant, low-level, and positive correlation between the week of gestation and the Depression ($r=0.193$, $p=0.000$) and Negative Self sub-dimensions of the BSI ($r=0.209$, $p=0.000$) and the total mean scores ($r=0.146$, $p=0.006$). The analysis further revealed a statistically significant, low-level, positive relationship between anxiety related to Covid-19 infection and the Anxiety, Depression, Negative Self, Somatization, and Hostility sub-dimensions of the BSI. Additionally, a similar relationship was observed between anxiety related to Covid-19 infection and the total mean scores of both the BSI and PSI. In addition, there was a statistically significant, low-level, and positive correlation between the anxiety of being infected by Covid-19 of the baby and the Anxiety, Depression, Negative self, Somatization and Hostility sub-dimensions of the BSI and between the BSI and PSI total mean scores (Table 3).

As seen in

Table 3, it was determined that there was a statistically significant, moderate, and positive relationship between the Anxiety, Depression, Negative self, Somatization and Hostility sub-dimensions of the BSI, and between the BSI total mean scores and the PSI total mean scores ($p<0.05$).

3.2. Discussion

According to the results of this study, which we conducted to determine the mental and physical symptoms of pregnant women during the pandemic period, it was found that the participants experienced mild physical and mental symptoms. Some studies conducted before and during the pandemic indicate that pregnant women experience mild pregnancy symptoms. As such, a study conducted during the pandemic period, it was reported that pregnant women experienced mild symptoms [25]. The most common symptoms were fatigue/weakness, frequent urination, sleep disturbance, back pain, and nausea. In a study conducted before the pandemic, it was concluded that the most common symptoms in pregnant women were frequent urination, insomnia, increased vaginal discharge and fatigue [3]. Similar to our study, in a study conducted by Woo et al. during the pandemic period, it was reported that the most common physical symptoms experienced by pregnant women were fatigue, food cravings, insomnia, frequent urination, and back pain [4]. In the literature, common physical symptoms in pregnancy include palpitations, dyspnea, peripheral edema, nausea, vomiting, pruritus [26], frequent urination, fatigue, insomnia, and back pain [23]. In line with the results obtained from this study, it is possible to state that the physical symptoms frequently seen in the participants of the study are similar to the physical symptoms reported in the literature in pregnant women before the pandemic. This situation can be explained by the positive health policies carried out for pregnant women in Türkiye during the pandemic period (i.e., informing pregnant women about not going out except for compulsory situations, giving administrative leave to working pregnant women regardless of their gestational week, etc.), and the adequate follow-up of pregnant women in terms of physical symptoms within the scope of primary health care services.

Many studies conducted during the Covid-19 pandemic show that depression and anxiety are the frequently encountered mental health conditions during pregnancy. In this study, it was determined that the participating pregnant women experienced mild depression and anxiety symptoms.

Table 2. Comparison of BSI and PSI Scores by Demographic Characteristics and Continuous Variables

		n	Anxiety	Depression	Negative Self	Somatization	Hostility	BSI Total	PSI Total
			X ± SD.	X ± SD.	X ± SD.	X ± SD.	X ± SD.	X ± SD.	X ± SD.
Education Status	Primary school	10	0.73 ± 0.41	0.71 ± 0.52	0.43 ± 0.31	0.60 ± 0.47	0.49 ± 0.46	0.59 ± 0.26	23.40 ± 7.97
	Elementary School	99	0.92 ± 0.68	1.15 ± 0.80	0.70 ± 0.81	0.76 ± 0.47	0.74 ± 0.58	0.85 ± 0.52	31.14 ± 15.28
	High school	159	0.61 ± 0.55	0.88 ± 0.68	0.36 ± 0.51	0.63 ± 0.45	0.45 ± 0.45	0.59 ± 0.39	26.14 ± 12.96
	University	84	0.72 ± 0.68	0.88 ± 0.62	0.32 ± 0.40	0.82 ± 0.74	0.52 ± 0.54	0.65 ± 0.51	31.26 ± 15.88
	Test and Significance		F=5.125 p=0.002	F=4.023 p=0.008	χ^2_{kw} =16.574 p=0.001	χ^2_{kw} =4.881 p=0.181	χ^2_{kw} =21.828 p<0.001	F=7.312 p<0.001	F=4.025 p=0.008
Work Status	Full time	24	0.85 ± 0.73	1.09 ± 0.60	0.35 ± 0.36	1.00 ± 0.66	0.57 ± 0.45	0.77 ± 0.47	32.92 ± 16.34
	Part time	23	0.54 ± 0.43	0.75 ± 0.55	0.22 ± 0.26	0.61 ± 0.28	0.28 ± 0.36	0.48 ± 0.31	25.91 ± 7.32
	Remote worker	28	0.40 ± 0.52	0.49 ± 0.51	0.18 ± 0.27	0.72 ± 0.64	0.39 ± 0.44	0.43 ± 0.40	25.68 ± 14.02
	Quitted job	60	0.92 ± 0.73	0.97 ± 0.74	0.63 ± 0.77	0.87 ± 0.65	0.61 ± 0.65	0.80 ± 0.58	35.62 ± 17.84
	Not working	217	0.72 ± 0.60	1.01 ± 0.72	0.47 ± 0.61	0.64 ± 0.48	0.58 ± 0.51	0.68 ± 0.44	27.00 ± 13.20
Test and Significance		F=4.135 p=0.003	F=4.300 p=0.002	χ^2_{kw} =14.504 p=0.006	χ^2_{kw} =13.187 p=0.010	χ^2_{kw} =13.394 p=0.010	F=4.356 p=0.002	F=5.483 p<0.001	
Chronic disease	Yes	32	0.80 ± 0.65	1.07 ± 0.63	0.84 ± 0.86	0.75 ± 0.42	0.77 ± 0.62	0.84 ± 0.49	38.19 ± 16.19
	No	320	0.72 ± 0.63	0.94 ± 0.71	0.41 ± 0.56	0.71 ± 0.55	0.53 ± 0.51	0.66 ± 0.46	27.74 ± 13.95
Test and Significance		t=0.703 p=0.482	t=0.952 p=0.342	U=3885.500 p=0.023	U=4344.000 p=0.156	U=3896.500 p=0.025	t=2.133 p=0.034	t=3.977 p<0.001	
Supporting individual	Spouse	281	0.67 ± 0.59	0.94 ± 0.70	0.39 ± 0.53	0.70 ± 0.55	0.51 ± 0.50	0.64 ± 0.44	27.53 ± 14.09
	My own family	53	0.92 ± 0.68	0.97 ± 0.76	0.70 ± 0.87	0.71 ± 0.52	0.62 ± 0.51	0.78 ± 0.56	30.51 ± 14.64
	Friend	6	1.03 ± 1.41	0.56 ± 0.50	0.33 ± 0.39	0.96 ± 0.55	1.00 ± 1.33	0.78 ± 0.81	35.33 ± 14.26
	Neighbor	4	1.50 ± 0.84	1.21 ± 0.82	1.04 ± 0.63	1.00 ± 0.13	0.79 ± 0.08	1.11 ± 0.45	60.50 ± 0.58
	No one	8	0.76 ± 0.13	1.35 ± 0.69	0.67 ± 0.39	0.83 ± 0.49	0.82 ± 0.62	0.89 ± 0.29	36.63 ± 6.37

Table 2. Continue

			F=3.805	F=1.282	$\chi^2_{kw}=11.243$	$\chi^2_{kw}=6.804$	$\chi^2_{kw}=7.688$	F=2.437	F=6.849
Test and Significance			p=0.005	p=0.277	p= 0.024	p=0.147	p=0.104	p= 0.047	p= 0.001
Relationship with spouse	Got better	129	0.67 ± 0.58	0.79 ± 0.57	0.24 ± 0.30	0.70 ± 0.50	0.53 ± 0.53	0.59 ± 0.38	26.08 ± 12.63
	Went bad	29	1.31 ± 0.73	1.59 ± 0.72	1.09 ± 0.70	1.10 ± 0.64	0.84 ± 0.51	1.18 ± 0.52	44.72 ± 14.29
	Good as before	194	0.67 ± 0.61	0.97 ± 0.73	0.49 ± 0.66	0.66 ± 0.53	0.52 ± 0.52	0.66 ± 0.47	28.04 ± 14.19
Test and Significance			F=14.789	F=16.494	$\chi^2_{kw}=34.779$	$\chi^2_{kw}=15.243$	$\chi^2_{kw}=12.907$	F=21.912	F=22.617
			p< 0.001	p< 0.001	p< 0.001	p< 0.001	p< 0.001	p< 0.001	p< 0.001
Family Type	Nuclear	300	0.68 ± 0.63	0.94 ± 0.71	0.41 ± 0.60	0.65 ± 0.52	0.51 ± 0.51	0.64 ± 0.47	27.35 ± 13.73
	Extended	52	0.95 ± 0.61	1.04 ± 0.67	0.67 ± 0.58	1.04 ± 0.57	0.78 ± 0.58	0.90 ± 0.41	36.44 ± 16.16
	Test and Significance			t=-2.852	t=-1.012	U=5174.500	U=4276.000	U=5418.500	t=-3.760
			p= 0.005	p=0.312	p< 0.001	p< 0.001	p< 0.001	p< 0.001	p< 0.001
Age	Test and Significance		r=0.021	r=0.104	r=0.125	r=-0.146	r=-0.084	r=0.016	r=-0.080
			p=0.701	p=0.051	p= 0.019	p= 0.006	p=0.114	p=0.763	p=0.135
Gestational week	Test and Significance		r=0.094	r=0.193	r=0.209	r=-0.042	r=0.084	r=0.146	r=0.092
			p=0.078	p< 0.001	p< 0.001	p=0.434	p=0.117	p= 0.006	p=0.083
Anxiety of being infected by the virus	Test and Significance		r=0.386	r=0.263	r=0.231	r=0.197	r=0.120	r=0.315	r=0.276
			p< 0.001	p< 0.001	p< 0.001	p< 0.001	p= 0.025	p< 0.001	p< 0.001
Anxiety about infecting the baby	Test and Significance		r=0.382	r=0.193	r=0.217	r=0.282	r=0.189	r=0.325	r=0.253
			p< 0.001	p< 0.001	p< 0.001	p< 0.001	p< 0.001	p< 0.001	p< 0.001

Table 3. *The Correlation Between BSI and PSI Total Scores*

		PSI Total
Anxiety	r	0.511
	p	0.000
Depression	r	0.503
	p	0.000
Negative Self	r	0.555
	p	0.000
Somatization	r	0.655
	p	0.000
Hostility	r	0.493
	p	0.000
BSI Total	r	0.694
	p	0.000

In a study carried out in Denmark, the depression and anxiety findings of pregnant women during the Covid-19 pandemic were compared by considering two previous studies, and it was found that there was no change in the depression findings of the pregnant women, and that there was minimal difference in the anxiety findings [13]. In another study conducted during the pandemic period in Türkiye, it was concluded that the majority of pregnant women had minimal depression [27]. According to the results of the study carried out in the United Kingdom during the pandemic period, it was stated that the anxiety levels of pregnant women were low, and that the symptoms of depression were similar to the earlier findings [28]. In a study conducted by Mei et al., (2021), in which the findings of depression and anxiety were investigated in pregnant women before and during the Covid-19 pandemic, it was determined that the rate of depression, which was mild before the pandemic, slightly increased during the pandemic, and that the anxiety rate was however lower than the rate determined before the pandemic [29]. Consistent with findings in the literature, the mild symptoms of anxiety and depression observed among the pregnant women during the pandemic in our study may be attributed to several factors. The participants reported experiencing fewer physical symptoms during this period, received adequate support from their spouses, and noted improved relationships with their spouses compared to before the pandemic. Additionally, the positive impact of adequate precautions and informing pregnant women about measures to be taken in Türkiye may have contributed to these outcomes. The presence of a supportive individual during pregnancy was noted to reduce anxiety levels. Furthermore, when relationships with spouses were positive and harmonious, symptoms of depression were less prevalent [5]. Similarly, according to a study conducted by Cincioğlu et al., it was emphasized

that the mental status of pregnant women who can share their emotional problems with their spouses was better [30].

It was reported in the previous studies that having a chronic disease and emotional and physical problems during pregnancy were obstetric risk factors for pregnancy depression [31-33]. In our study, which also investigated the relationship between the mental and physical conditions of pregnant women, it was found that the mental symptoms and psychological distress of the pregnant women who were diagnosed with a chronic disease in the pre-pregnancy period were higher. In a study examining anxiety, depression, and the affecting factors in pregnant women during the pandemic period, it was determined that women who were diagnosed with a chronic disease before pregnancy had higher depression and anxiety scores [34]. Similarly, in a study conducted during the pandemic period and evaluating pregnancy-related anxiety and the affecting factors, it was reported that having serious health problems in the pre-pregnancy history was a predictor of depression and anxiety in pregnant women [35]. In the study of Koyucu and Karaca, in which they examined the mental health of pregnant women and the affecting factors in the Covid-19 pandemic, it was concluded that having a chronic disease before pregnancy increased the risk of anxiety in pregnant women [36]. In a study carried out by Aktaş and Çalık (2015) to identify depression and affecting factors during pregnancy before the pandemic, it was reported that chronic diseases and pregnancy-related problems increased the severity of depression in pregnant women [5]. In another study conducted before the pandemic and evaluating the relationship between physical symptoms during pregnancy and depression, it was stated that physical symptoms related to pregnancy were associated with depressive symptoms [6]. In the study of Shangguan et al. (2021), it was found out that physical problems related to pregnancy, such as pelvic pain and vaginal bleeding, increased anxiety in pregnant women [10]. In similar studies carried out before the pandemic, it was underlined that having a chronic disease and experiencing physical symptoms related to pregnancy had an effect on anxiety and depression [7-9]. As a result, although it was found that the anxiety and depression levels of pregnant women were similar to the pre-pandemic period, it was indicated in this study, as in some studies, that some features of pregnant women increased depression and anxiety during pregnancy.

The results of studies conducted before and during the pandemic, examining the effects of pre-existing chronic conditions and physical symptoms of pregnancy on the mental health of pregnant women, were found to be similar. Our study also underscores this finding, indicating that physical symptoms related to chronic diseases and pregnancy continued to influence the mental health of pregnant women during the pandemic period. The strengths of this study lie in its focus on preventive services, particularly in primary healthcare centers, aimed at identifying at-risk groups and taking necessary precautions. Additionally, conducting the study during the lockdown period enhances its relevance. However, the necessity to conduct the study in only two centers, reduced frequency of pregnant women's visits to primary healthcare centers due to the pandemic, and the desire of pregnant women to quickly complete their tasks at the center and return home resulted in some limitations, such as the need to administer some of the scales over the phone.

4. Conclusion

As a result of this study, it was determined that fatigue/weakness, frequent urination, sleep disturbance, back pain and nausea were the most frequently reported symptoms by the pregnant women. It was also found that those who received sufficient support from their spouses and stated that their relations with their spouses improved during the pandemic period experienced milder depression and anxiety symptoms, while those who experienced more physical symptoms and had chronic disease had more depression and anxiety symptoms. Considering the enduring impact of factors such as chronic diseases and physical symptoms related to pregnancy on the mental health of pregnant women during the pandemic, it is advisable to develop nursing interventions aimed at safeguarding and enhancing the physical and mental well-being of pregnant women. These interventions should consider the influence of these factors. Furthermore, there is a need for more extensive studies examining physical and mental symptoms during pregnancy in larger sample groups to gain a deeper understanding of their effects and to inform comprehensive intervention strategies.

References

1. Rožman, M, Tominc, P, The physical, emotional and behavioral symptoms of health problems among employees before and during the COVID-19 epidemic, *Employee Relations*, 2021,44(7),19–45. <https://doi.org/10.1108/ER-10-2020-0469>
2. Kotlar, B, Gerson, E, Petrillo, S, Langer, A, Tiemeier, H, The impact of the COVID-19 pandemic on maternal and perinatal health: a scoping review, *Reproductive Health*, 2021, 18(1),10, 1-39. <https://doi.org/10.1186/s12978-021-01070-6>
3. Oviedo Caro, M.A, Bueno Antequera, J, Munguía Izquierdo, D, Spanish version of Pregnancy Symptoms Inventory: transcultural adaptation and reliability, *J Matern Fetal Neonatal Med*, 2017, 30(18), 2185–2192. <https://doi.org/10.1080/14767058.2016.1242125>
4. Woo, J, Penckofer, S, Fagan, M, Giurgescu, C, Associations between pregnancy-related symptoms, serum 25(OH)D, and physical quality of life in pregnant women, *Nutrients*, 2022, 14(3), 1–11. <https://doi.org/10.3390/nu14030482>
5. Aktas, S, Calik, K.Y, Factors affecting depression during pregnancy and the correlation between social support and pregnancy depression, *Iran Red Crescent Med J*, 2015,17(9), e16640. <https://doi.org/10.5812/ircmj.16640>
6. Kamysheva, E, Skouteris, H, Wertheim, E.H, Paxton, S.J, Milgrom, J, Examination of a multi-factorial model of body-related experiences during pregnancy: The relationships among physical symptoms, sleep quality, depression, self-esteem, and negative body attitudes, *Body Image*, 2008, 5(2), 152–163. <https://doi.org/10.1016/j.bodyim.2007.12.005>
7. Kamysheva, E, Wertheim, E.H, Skouteris, H, Paxton, S.J, Milgrom, J, Frequency, severity, and effect on life of physical symptoms experienced during pregnancy, *J Midwifery Womens Health*, 2009, 54(1), 43–49. <https://doi.org/10.1016/j.jmwh.2008.08.003>
8. Kamysheva, E, Skouteris, H.E, Wertheim, H.S, Paxton, J, Milgrom, J, A prospective investigation of the relationships among sleep quality, physical symptoms, and depressive symptoms during pregnancy, *J Affect Disord*, 2010, 123(1–3), 317–320. <https://doi.org/10.1016/j.jad.2009.09.015>
9. Karaçam, Z, Özçelik, G, Gebelikte sık karşılaşılan yakınmalar, fiziksel, ruhsal ve cinsel sağlık sorunları, risk faktörleri ve yaşam kalitesi ile ilişkileri, *Ege Üniversitesi Hemşirelik Fakültesi Dergisi*, 2014, 30(3), 1–18.
10. Shangquan, F, Wang, R, Quan, X, Zhou, C, Zhang, C, Qian, W, Zhou, Y, Liu, Z, Zhang, X.Y, Association of stress-related factors with anxiety among Chinese pregnant participants in an online crisis intervention during COVID-19 epidemic, *Front Psychol*, 2021, 12, 1–8. <https://doi.org/10.3389/fpsyg.2021.633765>
11. World Health Organization. Maternal Mental Health. 2020, [Accessed: 10.05.2022]. https://www.who.int/mental_health/maternal-child/maternal-mental-health/en/
12. Güner, Ö, Öztürk, R. Psychological and social impact and lifestyle changes among pregnant women of COVID-19 pandemic: A qualitative study, *Arch Psychiatr Nurs*, 2022, 36, 70–77. <https://doi.org/10.1016/j.apnu.2021.12.005>
13. Overbeck, G, Rasmussen, I.S, Siersma, V, Andersen, J.H, Kragstrup, J, Wilson, P, Hauskov Graungaard, A, Ertmann, R.K, Depression and anxiety symptoms in pregnant women in Denmark during COVID-19, *Scand J Public Health*, 2021, 49(7), 721–729. <https://doi.org/10.1177/14034948211013271>
14. Crouse Quinn, S, Crisis and emergency risk communication in a pandemic: a model for building capacity and resilience of minority communities, *Health Promot Pract*, 2008, 9(4), 18–25. <https://doi.org/10.1177/1524839908324022>
15. Bao, Y, Sun, Y, Meng, S, Shi, J, Lu, L, 2019-nCoV epidemic: address mental health care to empower society, *Lancet*, 2020, 395(10224), e37–e38. [https://doi.org/10.1016/S0140-6736\(20\)30309-3](https://doi.org/10.1016/S0140-6736(20)30309-3)
16. Ravaldi, C, Wilson, A, Ricca, V, Homer, C, Vannacci, A, Pregnant women voice their concerns and birth expectations during the COVID-19 pandemic in Italy, *Women Birth*, 2021, 34(4), 335–343. <https://doi.org/10.1016/j.wombi.2020.07.002>
17. Serafini, G, Parmigiani, B, Amerio, A, Aguglia, A, Sher, L, Amore, M, The psychological impact of COVID-19 on the mental health in the general population, *QJM*, 2020,113(8), 229–235. <https://doi.org/10.1093/qjmed/hcaa201>
18. 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, *Am J Obstet Gynecol*, 2020, 223(2),240, e1-240.e9. <https://doi.org/10.1016/j.ajog.2020.05.009>
19. Berthelot, N, Lemieux, R, Garon-Bissonnette, J, Drouin-Maziade, C, Martel, É, Maziade, M, Uptrend in distress and psychiatric symptomatology in pregnant women during the

- coronavirus disease 2019 pandemic, *Acta Obstet Gynecol Scand*, 2020, 99(7), 848–855. <https://doi.org/10.1111/aogs.13925>
20. Saccone, G, Florio, A, Aiello, F, Venturella, R, De Angelis, M.C, Locci, M, et al., Psychological impact of coronavirus disease 2019 in pregnant women. *Am J Obstet Gynecol*, 2020, 223(2), 293–295. <https://doi.org/10.1016/j.ajog.2020.05.003>
 21. Lebel, C, MacKinnon, A, Bagshawe, M, Tomfohr-Madsen, L, Giesbrecht, G, Elevated depression and anxiety symptoms among pregnant individuals during the COVID-19 pandemic, *J Affect Disord*, 2020, 277, 5–13. <https://doi.org/10.1016/j.jad.2020.07.126>
 22. Hisli Şahin, N, Durak, A, Kısa semptom envanteri (brief symptom inventory-BSI): Türk gençleri için uyarlanması, *Türk Psikoloji Dergisi*, 1994, 9(31), 44–56.
 23. Foxcroft, K.F, Callaway, L.K, Byrne, N.M, Webster, J, Development and validation of a pregnancy symptoms inventory, *BMC Pregnancy Childbirth*, 2013,13, 3. <https://doi.org/10.1186/1471-2393-13-3>
 24. Can Gürkan, Ö, Ekşi Güloğlu, Z, Gebelik semptom envanterinin Türkçe geçerlilik ve güvenilirlik çalışması, *ACU Sağlık Bil Derg*, 2020, 11(2), 298–303. <https://doi.org/10.31067/0.2019.162>
 25. Bakır, N, Demir, C, Şener, N, Gebelerin yaşadığı stres ve gebelik semptomları arasındaki ilişki, *Karya J Health Sci*, 2021, 2(3), 71–76. <https://doi.org/10.52831/kjhs.974791>
 26. Jarvis, S, Nelson-Piercy, C, Common symptoms and signs during pregnancy, *Obstetrics, Gynaecology & Reproductive Medicine*, 2020, 30(10), 321–325. <https://doi.org/10.1016/j.ogrm.2020.07.005>
 27. Geren, A, Birge, Ö, Bakır, M.S, Sakıncı, M, Sanhal, C.Y, Does time change the anxiety and depression scores for pregnant women on Covid-19 pandemic?, *J Obstet Gynaecol Res*, 2021, 47(10), 3516–3523. <https://doi.org/10.1111/jog.14935>
 28. Kotabagi, P, Fortune, L, Essien, S, Nauta, M, Yoong, W, Anxiety and depression levels among pregnant women with COVID-19, *Acta Obstet Gynecol Scand*, 2020, 99(7), 953–954. <https://doi.org/10.1111/aogs.13928>
 29. Mei, H, Li, N, Li, J, Zhang, D, Cao, Z, Zhou, Y, et al., Depression, anxiety, and stress symptoms in pregnant women before and during the COVID-19 pandemic, *J Psychosom Res*, 2021, 149, 1–6. <https://doi.org/10.1016/j.jpsychores.2021.110586>
 30. Cincioğlu, E, Durat, G, Öztürk, S, Akbaş, H, Riskli gebeliklerde gebelerin ruhsal durumları ve stresle başa çıkma biçimleri, *Sağlık ve Toplum*, 2020, 20(3), 148–157.
 31. Beyene, G.M, Azale, T, Gelaye, K.A, Ayele, T.A, Depression remains a neglected public health problem among pregnant women in Northwest Ethiopia, *Arch Public Health*, 2021,79(1), 1–12. <https://doi.org/10.1186/s13690-021-00649-6>
 32. Thompson, O, Ajayi, I.O, Prevalence of antenatal depression and associated risk factors among pregnant women attending antenatal clinics in Abeokuta North Local Government Area, Nigeria, *Depression Res Treat*, 2016, 2016, 1-15. <https://doi.org/10.1155/2016/4518979>
 33. Luo, Y, Zhang, K, Huang, M, Qiu, C, Risk factors for depression and anxiety in pregnant women during the COVID-19 pandemic: Evidence from meta-analysis, *PLoS One*, 2022, 17(3), 1–13. <https://doi.org/10.1371/journal.pone.0265021>
 34. Kahyaoglu Sut, H, Küçükkaya, B, Anxiety, depression, and related factors in pregnant women during the COVID-19 pandemic in Turkey: A web-based cross-sectional study, *Perspect Psychiatr Care*, 2021, 57(2), 860–868. <https://doi.org/10.1111/ppc.12627>
 35. Hamzehgardeshi, Z, Omidvar, S, Amoli, A.A, Firouzbakht, M, Pregnancy-related anxiety and its associated factors during COVID-19 pandemic in Iranian pregnant women: a web-based cross-sectional study, *BMC Pregnancy Childbirth*, 2021, 21(1), 1–9. <https://doi.org/10.1186/s12884-021-03694-9>

36. Koyucu, R.G, Karaca, P.P, The Covid 19 outbreak: Maternal mental health and associated factors, *Midwifery*, 2021, 99, 1-8. <https://doi.org/10.1016/j.midw.2021.103013>

<http://edergi.cbu.edu.tr/ojs/index.php/cbusbed> isimli yazarın CBU-SBED başlıklı eseri bu Creative Commons Alıntı-Gayriticari4.0 Uluslararası Lisansı ile lisanslanmıştır.

