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Mental health of pregnant women during the Delta and Omicron SARS-CoV-2 waves

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ABSTRACT

Objective: The objective is to investigate whether is there any differences in the mental health of pregnant women during Delta and Omicron COVID-19 waves and to determine the variables related to the symptoms of depression, stress, and anxiety of pregnant women.

Material and Methods: A cross-sectional study was conducted from April to June 2021 (Delta wave) and March to June 2022 (Omicron wave). Pregnant women were evaluated using a questionnaire consisting of sections assessing sociodemographic characteristics, the perceived burden of the COVID-19 pandemic, and psychometric instruments: depression anxiety and stress scales-21 (DASS-21), and perception of causes of COVID-19 scale.

Results: DASS anxiety, depression, and stress subscales scores were higher in the Delta wave than in the Omicron wave (p<0.001). Mothers' anxiety and fears about their own health and the health of their babies were higher in the Delta wave than in the Omicron wave (p<0.001). DASS symptoms were found to be associated with education level, employment, income, and weight gain during pregnancy (all p<0.05).

Conclusion: This study indicated that stress, anxiety, and depressive symptoms were higher in pregnant women in the Delta wave than in the Omicron wave. This study recommended the implementation of mental health promotion, prevention, and intervention strategies to support pregnant women during epidemics.

Keywords: COVID-19, Delta wave, depression, mental health, Omicron wave, pregnancy.

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INTRODUCTION

The COVID-19 pandemic has detrimental effects on physical condition, psychological health, and social life.^[1] The increase in deaths caused by the COVID-19 pandemic leads to fear, anxiety, stress, and depression. Türkiye has been severely affected by the Delta wave of the COVID-19 outbreak. New cases and deaths were seen in this wave.^[2] In studies conducted during the pandemic period in Türkiye, the frequency of anxiety and depression in prenatal women was reported as 56.3% and 64.5%.[3] Moreover, there is no detailed study of the mental health status of pregnant women in Türkiye with any wave or altered remedial strategies from COVID-19. Current evidence shows that the global prevalence of depression and anxiety in pregnancy increases by 25% after the spread of COVID-19.^[4] Anxiety, depression, and stress symptoms of pregnant women are amplified by the uncertainty surrounding the COVID-19 pandemic and the associated mitigation measures.^[5,6] Maternal-fetal transmission of the virus, lack of access to accurate and up-to-date information, inadequate routine prenatal care, and social distancing measures could lead to high levels of fear, anxiety, and distress among pregnant women during the COVID-19 pandemic.[6-9]

Women are more vulnerable to anxiety and depression during pregnancy due to psychosocial factors and hormonal changes.^[10,11] Previous studies have shown that depression and anxiety are common in pregnant women, with an overall prevalence of 22.9% and 15–65%, respectively.^[12] For pregnant women, pandemic-related concerns can add additional psychological burdens. Besides the unpredictability of pregnancy and its outcome, environmental stressors such as disasters or epidemics have detrimental effects on maternal psychological health.

Perinatal mental health places a heavy burden not only on pregnant women but also on their unborn children.^[13] Stress-related anxiety and depression during pregnancy can lead to preeclampsia, preterm birth, low birth weight, and low APGAR score.^[14–16] In addition, maternal anxiety and depression are considered to be associated with a higher risk of neurodevelopmental problems, social difficulties, impaired maternal-infant bonding, malnutrition, and development of mental health disorders.^[17]

Amid the pandemic, the psychological well-being of pregnant women is of paramount importance but is often overlooked. Most published reports have focused on assessing awareness, knowledge, and attitudes about the COVID-19 pandemic and the impact of containment measures on mental health among specific groups such as students, health workers, the general population, or between pre-pandemic and pre-pandemic times. To the best of our knowledge, this is one of the most comprehensive studies investigating the psychological well-being of pregnant women compared to Delta and Omicron waves of the COVID-19 pandemic. Therefore, the current study is devoted to provide a deeper understanding of the psychological wellbeing of pregnant women between two COVID-19 pandemic waves.

MATERIAL AND METHODS

This cross-sectional study was conducted to assess the mental health of pregnant women with no proven COVID-19 infection during the Omicron wave and to compare the antenatal psychological

Table 1: Sociodemographic characteristics of the participants

	n	%
Age*	29	15–44
Gestational week		
<14	148	24.7
14-28	167	27.8
>28	285	47.5
Educational status		
Literate	16	2.7
Primary/secondary	312	52.0
Tertiary	164	27.3
Undergraduate	108	18.0
Work status		
Government employed	53	8.8
Private employed	12	2.0
Unemployed	535	89.2
Income		
More than expense	101	16.8
Equal to expense	333	55.5
Less than expense	166	27.7
Weight gain in pregnancy*	14	1–35
Number of pregnancies*	2	1–7

*: Continuous variables are presented as median (min-max) values.

status with the data collected in the Delta wave of the COVID-19 pandemic. This study covered and compared data from two periods: The delta-dominant period (April 2021–June 2021) took place when Türkiye was under a national lockdown. The omicron-dominant period (March 2022–June 2022) was conducted while the Omicron wave of the pandemic was ongoing, with low infection rates and the country restrictions were loosened.

The study was conducted in accordance with the Declaration of Helsinki and was approved by the Research Ethics Committee of the Zeynep Kamil Women and Children Diseases Training and Research Hospital (Approval number: 70, May 25, 2022). Verbal and written informed consent was obtained from all study participants before participation.

From April 2021 to June 2022, a total of 600 pregnant women answered the survey and were included in the final analysis. Inclusion criteria were pregnant women who were literate, had a healthy pregnancy, and visited antenatal clinics during the Delta phase (April 2021–June 2021) and Omicron phase (March–June 2022) of the COVID-19 pandemic. Women who had a pre-diagnosed psychiatric illness, comorbidities, intrauterine fetal death, history of substance abuse, diagnosed congenital fetal anomaly, severe pathology or lifethreatening disease, and suspected or confirmed COVID-19 infection were excluded from the study.

	COVID-19 delta wave		COVID-19 o	р	
	n	%*	n	%*	
Being pregnant	300	100.0	19	6.3	<0.001
Finding out you are pregnant					<0.001
No worried	0	0.0	80	26.7	
Little worried	137	45.7	213	71.0	
Extremely worried	163	54.3	7	2.3	
Fear of death	173	57.7	19	6.3	<0.001
The health of own health	144	48.0	20	6.7	<0.001
Health of fetus	300	100.0	24	8.0	<0.001
Miscarriage	71	23.7	4	1.3	<0.001
Development of mental problems in the baby	48	16.0	3	1.0	<0.001
Preterm delivery	72	83.7	14	16.3	<0.001
Stillbirth	55	18.3	8	2.7	<0.001
Transfer of the baby to the neonatal intensive care unit	189	63.0	20	6.7	<0.001
Loss of baby after birth	169	56.3	14	4.7	<0.001
Unable to breastfeed safely	9	3.0	291	97.0	<0.001
Economic burden	271	90.3	8	2.7	<0.001
World will be affected for a long time by the pandemic	300	100.0	12	4.0	<0.001
Unknowns about the virus	300	100.0	15	5.0	<0.001
Lockdown measures	210	70.0	12	4.0	<0.001
Health concerns	300	100.0	21	7.0	< 0.001

*: The column percentage is given; **: Chi-square test.

Data were collected using an original, fully anonymous, and voluntary interviewer-administered questionnaire. Data were gathered from pregnant women through face-to-face interviews. A questionnaire consisting of four parts was used in the study. In the first part of the questionnaire, socio-demographic questions are used to collect information on age, week of pregnancy, level of education, occupation, and income. In the second part, there are questions asked about the perceived burden of the COVID-19 pandemic. In the third part, there is the depression anxiety and stress scales-21 (DASS-21), which was developed by Lovibond and Lovibond^[18] and was adapted to Turkish by Yilmaz et al.^[19] aiming to assess the mental health status of participants. This 21-item scale consists of three dimensions, namely anxiety, depression, and stress. Items are measured on a 4-point Likert-type scale ranging from 0 (Never) to 3 (Always). A higher sum score indicates more severe symptoms of depression, anxiety, and stress. In the fourth part, there was the perception of the causes of the COVID-19 scale, which was developed by Cırakoğlu^[20] Turkish validity and reliability were carried out by Genis et al.[21] This 14-item scale consists of three dimensions: conspiracy theories, environmental factors, and faith factors. Each item scored on a 5-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree), with higher scores representing a higher level of belief in that sub-dimension.

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Data were analyzed using Epi Info software version 7.2. For categorical variables, descriptive data were provided with frequency and percentage values, and for continuous variables, median (minimum–maximum) values. The Kolmogorov–Smirnov test was used to verify the distribution's normality. Two continuous variables were compared using the Spearman correlation test, two categorical variables were compared using the Chi-square test, and categorical variables and continuous variables were compared using the Mann–Whitney U-test and the Kruskal–Wallis test. The Binary Logistic Regression Analysis-Backward LR method was applied for multivariate analysis. A statistically significant p<0.05 acceptance was determined.

RESULTS

A total of 600 pregnant women, including 300 in the Delta wave and 300 in the Omicron wave were included in our study. The median age of the pregnant women was 29, ranging from 15 to 44. Of the pregnant women, 47.5% were above 28 weeks of gestation, 27.8% were between 14 and 28 weeks of gestation, and 24.7% were below 14 weeks of gestation. The descriptive features of the participants are given in Table 1.

	COVID-19 Delta wave		COVID-19 C	micron wave	p*
	n	%	n	%	
Anxiety					<0.00
Normal	68	22.7	147	49.0	
Mild	24	8.0	14	4.7	
Moderate	64	21.3	58	19.3	
Severe	44	14.7	17	5.7	
Extremely severe	100	33.3	64	21.3	
Depression					<0.00
Normal	48	16.0	120	40.0	
Mild	46	15.3	44	14.7	
Moderate	103	34.3	62	20.7	
Severe	57	19.0	28	9.3	
Extremely severe	46	15.3	46	15.3	
Stress					<0.00
Normal	87	29.0	163	54.3	
Mild	44	14.7	29	9.7	
Moderate	74	24.7	41	13.7	
Severe	84	28.0	55	18.3	
Extremely severe	11	3.7	12	4.0	

Mothers' anxiety and fears about both their own health and the health of their babies were higher in the Delta wave than the Omicron wave of the COVID-19 pandemic (p<0.001), and are shown in Table 2.

Seventy-seven percent of the participants in the delta wave and 51% of those in the Omicron wave experienced anxiety symptoms. Extremely severe and severe anxiety was found to be higher in the Delta wave compared to the Omicron wave (14.7% vs. 5.7% and 33.3% vs. 21.3%, respectively) (p<0.001). Depression symptoms were more common in the Delta wave than in the Omicron wave (84% vs. 60%, respectively). Moderate and severe depressive symptoms were significantly higher in the Delta wave compared to the Omicron wave (34.3% vs. 20.7% and 19% vs. 9.3%, respectively) (p<0.001). Seventy-one percent of the participants in the Delta wave and 45.7% in the Omicron wave had experienced stress symptoms (p<0.001) (Table 3). The distributions of anxiety, depression, and stress symptoms of the participants in the Delta wave and Omicron wave are shown in Figure 1.

There was a low level and positive correlation between the environmental factors subdimension and the scores of anxiety (r=0.12), depression (r=0.10), and stress (r=0.11) of DASS-21 scale (p<0.05) (Table 4 and Fig. 2). There was no correlation between the faith factor subdimension and DASS subscales scores (p>0.05) (Table 4).

A statistical difference was found between Delta and Omicron waves in DASS anxiety, depression, and stress subscale scores.

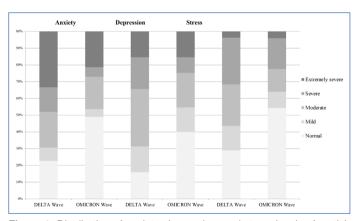


Figure 1: Distribution of anxiety, depression, and stress levels of participants in the Delta and Omicron waves.

DASS anxiety, depression, and stress subscales scores were higher in the Delta wave compared to the Omicron wave (p<0.001) (Table 5). Descriptive statistics for DASS anxiety, depression, and stress subscale scores in Delta and Omicron waves are shown in Figure 3.

Education level (p<0.001), employment (p=0.044), income (p<0.001), gestational week (p=0.003), weight gain during pregnancy (p<0.001), and pandemic wave (p<0.001) affected the frequency of anxiety symptoms. Age and number of pregnancies were

Table 4: Correlation between DASS-subscale scores and PCa-COVID-19 subscale scores (n=600)							
		DASS-21 anxiety	DASS-21 depression	DASS-21 stress	PCa-COVID-19 environmental factors	PCa-COVID-19 conspiracy theories	PCa-COVID-19 faith factors
DASS-21							
Anxiety	r§	1.00	0.80**	0.61**	0.12**	0.11**	-0.01
DASS-21							
Depression	r§		1.00	0.77**	0.10*	0.11**	-0.01
DASS-21							
Stress	r٩			1.00	0.11**	0.13**	-0.02
PCa-COVID-19 environmental factors	r§				1.00	0.33**	0.10*
PCa-COVID-19 conspiracy theories	r§					1.00	-0.24**
Pca-COVID-19 faith factors	r§						1.00

DASS: Depression Anxiety Stress Scales; §: Spearman correlation test; **: P<0.01; *: P<0.05.

Table 5: Distribution of participants' DASS subscale scores and PCa-COVID-19 subscale scores in Delta and Omicron waves

	COVID-19 Delta wave Median (Min–Max)	COVID-19 Omicron wave Median (Min–Max)	p*
Anxiety	7 (0–20)	4 (0–21)	<0.001
Depression Stress	9 (0–19) 10 (0–19)	6 (0–21) 7 (0–21)	<0.001 <0.001
	(<i>'</i>	(<i>'</i>	

*: Mann-Whitney U-test; DASS: Depression Anxiety Stress Scales; Min: Minimum; Max: Maximum.

not associated with anxiety symptoms (p>0.05). The frequency of depression symptoms was found to be associated with education level (p<0.001), employment (p<0.001), income (p=0.001), weight gain during pregnancy (p=0.002), and pandemic wave (p<0.001). Age, gestational week, and the number of pregnancies were not associated with depression symptoms (p>0.05). Stress symptoms were found to be associated with education level (p<0.001), employment (p=0.002), income (p=0.003), weight gain during pregnancy (p<0.001), number of pregnancies (p=0.009), and pandemic wave (p<0.003). It was found that age and gestational week were not associated with stress symptoms (p>0.05) (Table 6).

According to the multivariate analysis, the presence of anxiety symptoms was 2.46 times higher in primary-secondary school graduates and 2.94 times higher in high school graduates compared with undergraduates. Anxiety symptoms were 3 times more common in the delta wave than in the Omicron wave. For each 1-unit increase in the conspiracy factor score increases the risk of anxiety increased by 1.24. Literate women were 4.78 times more likely to experience depression, women with a high school education 4.04 times, and

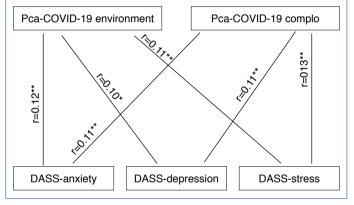
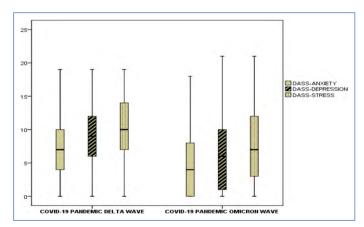
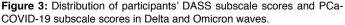


Figure 2: Correlation between DASS-subscale scores and PCa-COVID-19 subscale scores.





women with primary and secondary education 3.76 times more likely to experience depression than undergraduates. Depression symptoms were also 3.28 times more common in the Delta wave than in

	Anxiety			I	Depression			Stress		
	No n (%)*	Yes n (%)*	р	No n (%)*	Yes n (%)*	р	No n (%)*	Yes n (%)*	р	
Age	28 (15–44)	29 (18–43)	0.545**	28 (15–39)	29 (18–44)	0.146**	28 (15–44)	29 (18–43)	0.084**	
Educational status			<0.001§			<0.001§			<0.001§	
Literate	5 (31.3)	11 (68.8)		3 (18.8)	13 (81.3)		3 (18.8)	13 (81.3)		
Primary/secondary	100 (32.1)	212 (67.9)		70 (22.4)	242 (77.6)		108 (34.6)	204 (65.4)		
Tertiary	47 (28.7)	117 (71.3)		36 (22.0)	128 (78.0)		70 (42.7)	94 (57.3)		
Undergraduate	63 (58.3)	45 (41.7)		59 (54.6)	49 (45.4)		69 (63.9)	39 (36.1)		
Work status			0.044§			<0.001§			0.002§	
Government employed	27 (50.9)	26 (49.1)		27 (50.9)	26 (49.1)		34 (64.2)	19 (35.8)		
Private employed	3 (25.0)	9 (75.0)		1 (8.3)	11 (91.7)		5 (41.7)	7 (58.7)		
Unemployed	185 (34.6)	350 (65.4)		140 (26.2)	395 (73.8)		211 (39.4)	324 (60.6)		
Income			<0.001§			0.001 [§]			0.003 §	
More than expense	52 (51.5)	49 (48.5)		42 (41.6)	59 (58.4)		52 (51.5)	49 (48.5)		
Equal to expense	125 (37.5)	208 (62.5)		92 (27.6)	241 (72.4)		146 (43.8)	187 (56.2)		
Less than expense	38 (22.9)	128 (77.1)		34 (20.5)	132 (79.5)		52 (31.3)	114 (68.7)		
Gestational week			0.003§			0.125§			0.790 §	
<14	44 (29.7)	104 (70.3)		36 (24.3)	112 (75.7)		62 (41.9)	86 (58.1)		
14–28	49 (29.3)	118 (70.7)		41 (24.6)	126 (75.4)		66 (39.5)	101 (60.5)		
>28	122 (42.8)	163 (57.2)		91(31.9)	194 (68.1)		122 (42.8)	163 (57.2)		
Weight gain in pregnancy (kg)	13 (1.28)	15 (1–35)	<0.001**	13 (1–28)	14 1–35)	0.002**	13 (1–28)	15 (1–35)	<0.001**	
Number of pregnancies	2 (1–7)	2 (1–7)	0.226**	2 (1–7)	2 (1–7)	0.057**	2 (1–6)	2 (1–7)	0.009**	
COVID-19 pandemic period			<0.001§			<0.001§			<0.001§	
Delta wave	68 (22.7)	232 (77.3)		48 (16.0)	252 (84.0)		87 (29.0)	213 (71.0)		
Omicron wave	147 (49.0)	153 (51.0)		120 (40.0)	180 (60.0)		163 (54.3)	137 (45.7)		

Table 6: Depression, anxiety and stress and associated factors during the COVID-19 pandemic (n=600)

*: Continuous variables are presented as median (min-max) values; **: Mann-Whitney U-test; §: Chi-square test.

the Omicron wave. Stress symptoms were 5.29 times higher for literate, 2.81 times higher for primary–secondary school graduates, and 2.01 times higher for high school graduates than undergraduate students. We found stress levels to be higher by 2.16 fold in 3rd-trimester pregnant women relative to 1st trimester pregnant women. In addition, stress symptoms were 3.73 times more common in the Delta wave than in the Omicron wave. For each 1 unit increase in the Conspiracy Factor score increases the risk of stress by 1.33 (Table 7).

DISCUSSION

The result of the study indicated that pregnant women experienced higher levels of stress, anxiety, and depression symptoms during the Delta wave compared to the Omicron wave. The results of the used scales were significantly influenced by several sociodemographic characteristics, including gestational week, gestational weight gain, employment status, income, and education level. It is worth mentioning that mothers' anxiety and fears about both their own health and the health of their babies were found to be higher in the Delta wave than in the Omicron wave of the COVID-19 pandemic. In addition, mothers were more concerned that the COVID-19 pandemic might cause miscarriage, stillbirth, or transfer of their baby to the neonatal intensive care unit in Delta wave than in the Omicron wave. Moreover, pregnant women in the Delta wave were more worried that their babies would have mental problems or that they would not be able to breastfeed safely than pregnant women in the Omicron wave. These results may be explained by the fact that the delta variant was associated with severe maternal and perinatal outcomes compared to the Omicron variant.^[22] Thus, pregnant women might have felt more threatened in the Delta wave than in the Omicron wave. The findings of the present study match those observed in earlier studies.^[16,23]

The results of the study showed that there were great differences in stress, anxiety, and depression scores between Delta-dominant and Omicron-dominant periods. A possible explanation for this might

	Anxiety		Depression	n	Stress	
	OR (95% CI)	р	OR (95% CI)	р	OR (95% CI)	р
Age			1.04 (1.00–1.08)	0.053	1.03 (0.99–1.07)	0.059
Educational status						
Literate	2.19 (0.68–7.04)	0.188	4.78 (1.18–19.28)	0.028	5.29 (1.36–20.55)	0.016
Primary/secondary	2.46 (1.53–3.95)	<0.001	3.76 (2.29–6.18)	<0.001	2.81 (1.72–4.57)	<0.001
Tertiary	2.94 (1.73–5.02)	<0.001	4.04 (2.30–7.08)	<0.001	2.01 (1.17–4.57)	0.010
Undergraduate	1	-	1	_	1	-
Income						
More than expense			1	-		
Equal to expense			1.54 (0.91–2.61)	0.103		
Less than expense			0.96 (0.43–2.10)	0.921		
Gestational week						
<14					1	_
14–28					1.50 (0.90–2.47)	0.113
>28					2.16 (1.29–3.62)	0.003
COVID-19 pandemic period						
Delta wave	3.00 (2.09-4.32)	<0.001	3.28 (1.86–5.78)	<0.001	3.73 (2.42–5.74)	<0.001
Omicron wave	1	-	1	_	1	-
PCa-COVID-19 conspiracy theories score	1.24 (1.04–1.48)	0.013			1.33 (1.11–1.58)	0.001

be the significant difference in infection and death rates between periods. During the wave of the dominant variant of Delta, the number of SARS-COV-2 infections ranged from 6.493 to 62.606 cases per day, with a death rate of 122-394 per day, while during the wave of the dominant variant of Omicron, the number of SARS-COV-2 infections ranged from 864 to 56,780 per day and deaths ranged from 2 to 203 per day.^[24] A large number of infections and deaths negatively affected the feelings of security for the life and health of oneself and loved ones, which in turn worsened mental well-being.[25] These differences may also result from exhaustion in the community due to the stay-at-home orders and social distancing measures in everyday life in response to the pandemic.^[26] Several reports have shown that lockdowns had a negative impact on citizens' mental health, while anxiety decreased after many coronavirus restrictions were lifted. ^[27] This could be due to the fact that a relative return to pre-pandemic conditions allowed for an increase in mobility and frequency of interpersonal contact, contributing to an improvement in mood and cognitive function.^[28] These results supported the results of studies conducted in the United Kingdom, Poland, and China. It was reported that while the level of anxiety and fear was highest when the pandemic peaked, it decreased with the reduction of restrictions.[26]

Pandemic-related issues such as social distancing measures and social and economic pressure may also affect the psychological well-being of pregnant women.^[29] Consistent with the literature, this research found that mothers were more concerned about the economic burden of the pandemic and lockdown measures during the Delta wave compared to the Omicron wave.

We observed higher levels of anxiety and depression in the third trimester of pregnancy. Countries with similar culture and socio-demographic profiles to Türkiye, such as Iran also reported similar findings recently. A study by Saadati et al.^[30] in Iran, pregnant women in the third trimester were shown to have higher health anxiety than women in the second or first trimester. A conceivable explanation for this result could be the lack of access to family, relatives, or friends when needed, and to health-care providers in case of childbirth, or they might be reluctant to go to health facilities or hospitals as they consider such places to be unsafe environments during the COVID-19 Pandemic.

Many studies have been reported assessing the mental health of a specific population, such as students or adult populations during a 1-time point of the pandemic. However, to our knowledge, none of the studies assessed the depression, anxiety, and stress between the Delta wave in comparison with the Omicron wave or in changing mitigation strategies of COVID-19 among pregnant women. Furthermore, a validated and reliable assessment tool has been applied to evaluate DASS symptoms and adds to the growing body of literature. The evaluation of psychological well-being across waves of the pandemic makes an invaluable contribution to the field to shed light on mental health changes related to the pandemic. Several limitations of this study need to be acknowledged. Since the data of pregnant women who were willing to participate and provide information about their mental state are used, thus, the data obtained might have respondent and report bias. Due to the study population consisting of pregnant women, the study design allows for comparison between the 2 time frames, given the limitation that the research has been conducted on two independent samples. Given the possibility that an increase in DAS symptoms during pregnancy harms maternal-fetal health, it is crucial for healthcare practitioners and health policymakers to consider implementing mental health promotion, prevention, and intervention programs to support pregnant women during the epidemics.

CONCLUSION

We observed higher levels of anxiety, depression, and stress symptoms among pregnant women during the Delta wave compared to the Omicron wave of the COVID-19 pandemic. Continuing efforts are necessary to mitigate the mental health burden of this vulnerable group of the population during the epidemic.

Statement

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Author Contributions: Concept – EK, LK; Design – EK, LK; Supervision – EK, NY; Resource – ZÇ, ZK; Materials – ZÇ, ZK; Data Collection and/or Processing – ZÇ, ZK; Analysis and/or Interpretation – EK, ZÇ, NY; Literature Search – EK, NY; Writing – EK, ZK, LK, NY, ZÇ; Critical Reviews – EK, ZK, LK, NY, ZÇ.

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