PERINATAL JOURNAL

Original Article

Perinatal Journal 2024;32(1):77-85

Anxiety and depression affecting Turkish pregnant women during the second wave of COVID-19 pandemic

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Abstract

Objective: Disease outbreaks increase the prevalence of psychiatric problems during pregnancy which is a vulnerable period. This study aims to investigate the symptoms of anxiety and depression experienced by pregnant women during the second wave of COVID-19 pandemic.

Methods: This is a cross-sectional study of 192 women who had second trimester pregnancy and who were consecutively admitted to the perinatology department of a tertiary hospital.

Results: The women with previous COVID-19 positivity had significantly higher scores for the behaviors such as mitigation and avoidance in a psychiatric scale. The pregnant women with previous COVID-19 positivity also had significantly higher scores for depression, psychosocial deterioration in daily activities, and quality of life in another scale. These pregnant women had significantly higher scores for social anxiety in a similar scale. Pregnant women with previous COVID-19 positivity had significantly higher scores for cognitive and behavioral impairment in a questionnaire.

Conclusion: Anxiety and depression scores of the pregnant women with previous COVID-19 positivity are significantly higher than those of the pregnant women who had no previous positivity for COVID-19. Further research is needed to clarify the effects of COVID-19 pandemic on the psychological well-being of the pregnant women.

Keywords: Anxiety, COVID-19, pregnancy

Introduction

It has been well established that natural disasters and disease outbreaks increase the prevalence of psychiatric problems and disorders during pregnancy which is a vulnerable period of lifetime.[1] As expected, previous coronavirus outbreaks including severe acute respiratory syndrome, Middle East respiratory syndrome, and the H1N1 infection have been associated with adverse maternal and fetal complications.[2,3] Therefore, SARS-CoV-2 pandemic can be considered as a similar disease outbreak.[4]

Literature shows that the adverse effects of the COVID-19 pandemic on maternal and perinatal health extend beyond those associated with morbidity and mortality caused by the disease itself.[5,6] Recently gathered evidence suggests that rates of stillbirth and preterm birth might have increased remarkably during the pandemic.[6,8] Clinical studies also claim that the symptoms of anxiety and depression are enhanced in populations of pregnant women living worldwide during the COVID-19 pandemic. However, the exact prevalence of anxiety and depression in pregnant women is currently unknown.[9,10]

Approximately 10–15% of all pregnant women expe-

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Received: February 28, 2024, **Accepted:** March 20, 2024

How to cite this article: Isguder CK, Arslan O, Pektaş MK, Batmaz S, Tug N. Anxiety and depression affecting Turkish pregnant women during the second wave of COVID-19 pandemic. Perinatal Journal 2024;32(1):77-85 DOI: 10.59215/prn.24.0321013

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rience a variety of emotional changes that trigger the risk of psychiatric problems such as anxiety and depression.[11] When left untreated, these psychiatric problems emerging during pregnancy exert negative impact on perinatal outcomes and, thus, increase the risk of complications including miscarriage, preterm birth, lower birth weight, lower Apgar score, and fetal death.[12,13] Additionally, the children born to mothers who had suffered from untreated psychiatric problems during pregnancy are more likely to have cognitive, emotional, and behavioral problems and they carry higher risk for neurodevelopmental impairment.[13-15]

This study aims to investigate the symptoms of anxiety and depression experienced by pregnant women who were admitted to a tertiary health center during a period of 12 months at the time of COVID-19 pandemic.

Methods

SARS-CoV-2 was first reported and confirmed officially by the Turkish Ministry of Health on March 11, 2020. The present study was approved by the Ethical Committee of Istanbul Sancaktepe Training and Research Hospital where it was conducted between January 2021 and January 2022 (grant no: E-46059653-020-254). All participants were informed about the study protocol and written consent was obtained from each participant.

Study population

This is a cross-sectional study of 192 women who had second trimester pregnancy and who were consecutively admitted to the department of perinatology at the study center due to screening for congenital anomalies. The women who resided out of Turkey, the women who had insufficient reading and writing skills to complete the surveys, and the women who had prenatal diagnoses of fetal chromosomal and/or structural abnormalities were excluded.

Data related with age, marital status, gestational age, gravidity, parity, miscarriages, maternal education, monthly income, and chronic diseases were acquired from the medical files. Data about the history of depression, anxiety, self-harm, anti-psychotic treatment and stay at psychiatric hospital, vaccination for COVID-19, family history of psychiatric disorder and COVID-19 positivity were also recorded. Moreover, data related with the loss of a friend and/or relative due to COVID-19 was noted.

Clinical measures

The Fear of Illness and Virus Evaluation (FIVE) Scales (adult self-report, youth self-report, caregiver-report) were developed simultaneously using the same process in March 2020 following the initial implementation of social distancing restrictions to measure fears and behaviors hypothesized to be associated with the COVID-19 pandemic and were made freely available to researchers worldwide. All FIVE items are rated using a 4-point Likert-type scale 1–4, with higher values indicating greater fear or higher frequency of the behavior.[16, 17]

The Clinically Useful Depression Outcome Scale (CUDOS) is a reliable, valid, precise, and user-friendly self-reporting instrument, which is brief, acceptable to patients, and covers all Diagnostic and Statistical Manual of Mental Disorders-IV (DSM-IV) diagnostic criteria for major depressive disorder. It is also reliable with internal consistency and test-retest reliability, has convergent and discriminant validity, indicates symptom severity and remission status.

This 16-item scale assesses psychosocial function, quality of life and suicidal thoughts, is sensitive to change, is cheap and can be completed in <3 minutes and scored in <15 seconds. The participants rate the items on a 5-point Likert scale indicating "how well the item describes them during the past week, including today" (0 = not at all true/0 days; 1 = rarely true/1-2 days; 2 = sometimes true/3-4 days; 3 = usually true/5-6 days; 4 = almost always true/every day). A score of 0-10 represents non-depressed range, 11-20 shows minimal depressive symptoms, 21-30 is mild depression, 31-45 indicates moderate and 946 is severe depression.[18, 19]

The Clinically Useful Anxiety Outcome Scale (CUXOS) is a brief and accurate self-report questionnaire used to evaluate the severity of anxiety frequently, quickly, and at minimal cost. The questionnaire takes 2 minutes to complete, and the completed form can be marked within 15 seconds. The CUXOS was developed based on the conventional clinician rating scale and the descriptions of panic disorder and generalized anxiety disorder in the DSM-IV. This self-administered scale includes items for measuring somatic anxiety and is helpful in evaluating somatic symptoms accompanying anxiety disorder or major depressive disorder. The form consists of 20 self-administered questions: a 6-item psychic anxiety subscale and a 14-item somatic anxiety subscale. The participants answer each question according to "how well it describes you during the past week, including today" using a 5-point Likert scale (0 = not at all true; 1 = rarely true; 2 = sometimes true; 3 = usually true; and 4 = almost always true).[20, 21]

The Cognitive Attentional Syndrome-1 (CAS-1) questionnaire is a 16-item self-report tool based on the metacognitive model of psychological disorders. Consisting of four scales, this questionnaire assesses dimensions of

the cognitive attentional syndrome; strategies and metacognitive beliefs and helps to monitor changes in worry/rumination, threat monitoring, unhelpful coping behaviors and metacognitive beliefs.[22, 23]

The Cognitive and Behavioral Processes Questionnaire (CBP-Q) includes two parts. Part A is the cognitive section which explored internal experiences including avoidance/suppression, mental control, thought-action fusion, rumination, worry and self-criticism. Part B refers to various processes that interface with environment. These processes are hypervigilance for threat, safety-seeking behavior, behavioral avoidance (including inactivity and overactivity), and experiential avoidance using alcohol, drugs, food, or activities. A verbal description of the two extremes of a process has been provided, e.g. for hypervigilance, "How much have you looked for possible harm or threats in your surroundings when feeling bad, rather than just noticing things around you? This is followed by a 9-point (0–8) graphic Likert scale that is used to assess the degree of self-reported engagement with each process, e.g. 0 = Always looked for threats; 2 = Mostly looked for threats; 4 = Equal; 6 = Mostly just noticed things around you; 8 = Always just noticed things around you. Total scores range from 0 to 120.[24, 25]

The aforementioned scales were used in this study as the researchers were clinically experienced in their application.

Statistical analysis

Collected data were analyzed by Statistical Package for Social Sciences version 22.0 (SPSS IBM, Armonk, NY, USA). Kolmogorov-Smirnov test was used to test the data distribution. Continuous variables were expressed as mean ± standard deviation whereas categorical variables were expressed as numbers and percentages. Student t-test, chi-square test and Mann Whitney U test were used for the comparisons. Two-tailed p values less than 0.05 were accepted to be statistically significant. A post hoc power analysis revealed that a sample of 192 patients was able to achieve a power of 78.5% for detecting a difference at the 0.05 significance level.

Results

The sociodemographic and clinical characteristics of the pregnant women with respect to their history of COVID-19 positivity is shown in Table-1. The pregnant women with previous COVID-19 positivity and those who did not reveal previous COVID-19 positivity were statistically similar in aspect of age, marital status, gestational age, maternal age, monthly income, gravidity, parity, abortus, chronic disease, vaccination for COVID-19, history of depression, anxiety, anti-psychotic treatment, self-harm, stay at psychiatric hospital and family history of psychiatric disease and COVID-19 positivity (p>0.05 for all). When compared to pregnant women who had no previous COVID-19 positivity, those with previous COVID-19 positivity had significantly higher scores for items 20, 31, 34 and 35 in FIVE scale (p=0.013, p=0.039, p=0.011 and p=0.001 respectively) (Table 2).

Table 1. Sociodemographic and clinical characteristics of the participants

	Pregnant women with previous COVID-19 positivity (n=77)	Pregnant women without previous COVID-19 positivity (n=115)	p
Age (years)	28.8±5.3	28.8±4.7	0.944
Marital status	75 (97.4%)	115 (100.0%)	0.082
Gestational age (weeks)	25.7±7.8	24.1±7.8	0.166
Maternal education span (years)	12.5±3.8	12.2±3.9	0.520
Monthly income (Turkish liras)	7371.2±3907.1	8192.5±4545.8	0.259
Gravidity	2.01±1.15	2.08±1.52	0.749
Parity	0.91±0.86	0.97±0.77	0.553
Abortus	0.64±0.27	0.65±0.30	0.740
Chronic disease	9 (11.7%)	10 (8.7%)	0.496
History of depression	11 (14.3%)	10 (8.7%)	0.224
History of anxiety	10 (13.0%)	16 (13.9%)	0.854
History of anti-psychotic treatment	8 (10.4%)	6 (5.2%)	0.177
History of self-harm	3 (3.9%)	3 (2.6%)	0.615
History of stay at psychiatric hospital	0 (0.0%)	2 (1.7%)	0.245
Family history of psychiatric disease	9 (11.7%)	6 (5.2%)	0.102
Vaccination for COVID-19	64 (83.1%)	94 (81.7%)	0.806
Family history of COVID-19 positivity	54 (70.1%)	74 (64.3%)	0.405
Loss of a friend/relative due to COVID-19	3 (3.9%)	13 (11.3%)	0.069

Table 2. Fear of Illness and Virus Evaluation Scale scores of the participants

	Pregnant women with previous COVID-19 positivity (n=77)	Pregnant women without previous COVID-19 positivity (n=115)	p
FIVE 1	2.13±0.88	1.92±0.84	0.100
FIVE 2	2.05±0.96	1.85±0.88	0.139
FIVE 3	1.91±1.0	1.7±0.88	0.137
FIVE 4	1.99±1.04	1.84±0.97	0.330
FIVE 5	1.39±0.84	1.32±0.73	0.606
FIVE 6	2.7±1.0	2.51±1.1	0.239
FIVE 7	2.51±1.1	2.51±1.0	0.644
FIVE 8	2.16±1.02	2.03±0.98	0.374
FIVE 9	2.14±1.0	1.98±0.97	0.272
FIVE 10	2.01±0.93	1.89±1.0	0.376
FIVE 11	2.21±0.95	2.16±0.89	0.705
FIVE 12	1.91±1.0	1.75±0.93	0.254
FIVE 13	1.45±0.74	1.49±0.73	0.735
FIVE 14	1.6±0.88	1.51±0.81	0.495
FIVE 15	2.25±1.08	2.06±0.96	0.226
FIVE 16	2.5±1.09	2.35±0.92	0.328
FIVE 17	2.05±1.09	1.96±0.94	0.529
FIVE 18	1.77±0.9	1.78±0.92	0.903
FIVE 19	1.95±1.09	1.87±0.95	0.597
FIVE 20	1.69±1.04	1.35±0.69	0.013*
FIVE 21	1.65±0.93	1.63±0.85	0.858
FIVE 22	1.53±0.91	1.53±0.91	0.988
FIVE 23	3.32±1.03	3.39±1.06	0.666
FIVE 24	2.84±1.19	2.78±1.21	0.729
FIVE 25	2.92±1.21	2.72±1.25	0.271
FIVE 26	3.04±1.16	3.09±1.13	0.778
FIVE 27	2.05±1.03	1.92±1.17	0.415
FIVE 28	2.38±1.16	2.28±1.2	0.574
FIVE 29	2.32±1.22	2.25±1.11	0.643
FIVE 30	2.81±1.21	2.59±1.2	0.224
FIVE 31	1.75±0.94	2.07±1.1	0.039*
FIVE 32	1.51±1.03	1.31±0.81	0.164
FIVE 33	1.62±1.14	1.47±1.04	0.348
FIVE 34	1.97±1.0	1.62±0.91	0.011*
FIVE 35	1.81±0.99	1.37±0.68	0.001*

*p<0.05 was accepted to be statistically significant

The pregnant women with previous COVID-19 positivity had significantly higher scores for items 1, 3, 8 and 9 in CUDOS than the pregnant women who revealed no COVID-19 positivity (p=0.008, p=0.021, p=0.019 and p=0.043 respectively). However, the pregnant women with previous COVID-19 positivity and those without previous COVID-19 positivity had statistically similar total scores for CUDOS. The rates of mild, moderate, and severe depression were found to be statistically similar in both groups of pregnant women (Table 3).

Table 3. Clinically Useful Depression Outcome Scale scores of the participants

	Pregnant women with previous COVID-19 positivity (n=77)	Pregnant women without previous COVID-19 positivity (n=115)	p
CUDOS 1	1.47±1.33	1.18±0.97	0.008*
CUDOS 2	1.48±1.33	1.3±1.17	0.109
CUDOS 3	1.49±1.31	1.16±0.84	0.021*
CUDOS 4	1.29±1.05	1.34±1.25	0.319
CUDOS 5	1.58±1.42	1.46±1.2	0.081
CUDOS 6	1.36±1.07	1.37±1.14	0.710
CUDOS 7	1.07±0.58	1.22±0.83	0.141
CUDOS 8	1.45±1.30	1.29±0.82	0.019*
CUDOS 9	1.66±1.37	1.36±1.25	0.043*
CUDOS 10	1.15±0.61	1.06±0.43	0.277
CUDOS 11	1.1±0.61	1.1±0.55	0.729
CUDOS 12	1.26±0.99	1.22±0.87	0.519
CUDOS 13	1.27±0.92	1.21±0.76	0.382
CUDOS 14	0.71±0.21	1.68±0.2	0.953
CUDOS 15	0.68±0.2	0.68±0.17	0.748
CUDOS 16	0.98±0.4	0.85±0.41	0.963
CUDOS 17	0.84±0.6	0.71±0.51	0.548
CUDOS 18	1.62±0.78	1.4±0.8	0.122
Sum	15.21±11.22	12.73±11.61	0.144
Non-depressed (0-10 points)	32 (41.6%)	56 (48.7%)	0.753
Minimally depressive (11-20 points)	25 (32.5%)	35 (30.4%)	0.706
Mild depression (21-30 points)	13 (16.9%)	13 (11.3%)	0.406
Moderate depression (31-45 points)	5 (6.5%)	9 (7.8%)	0.389
Severe depression (≥46 points)	2 (2.5%)	2 (1.8%)	0.354

*p<0.05 was accepted to be statistically significant.

When compared to pregnant women who had no previous COVID-19 positivity, those with previous COVID-19 positivity had significantly higher scores for items 1,2,3,5,9, 12, 13, 15, 17 and 18 in CUXOS (p=0.014, p=0.021, p=0.044, p=0.033, p=0.006, p=0.032, p=0.029, p=0.033, p=0.025 and p=0.001 respectively) (Table 4). The pregnant women with previous COVID-19 positivity and those who revealed no positivity had statistically similar scores for CAS-1 questionnaire items (Table 5). The pregnant women with previous COVID-19 positivity had significantly higher scores for items B3 and B7 in CBP-Q than the pregnant women without previous COVID-19 positivity (p=0.007 and p=0.012 respectively) (Table 6).

Table 4. Clinically Useful Anxiety Outcome Scale scores of the participants

	Pregnant women with previous COVID-19 positivity (n=77)	Pregnant women without previous COVID-19 positivity (n=115)	p
CUXOS 1	1.42±1.26	1.21±0.97	0.014*
CUXOS 2	1.42±1.4	1.24±0.94	0.021*
CUXOS 3	1.47±1.33	1.26±0.91	0.044*
CUXOS 4	1.13±0.56	1.02±0.46	0.535
CUXOS 5	1.31±0.91	0.99±0.53	0.033*
CUXOS 6	1.39±1.01	1.4±0.91	0.628
CUXOS 7	1.53±1.47	1.31±1.15	0.065
CUXOS 8	1.28±1.13	1.2±0.83	0.106
CUXOS 9	1.4±1.2	1.1±0.67	0.006*
CUXOS 10	1.34±0.89	1.1±0.58	0.100
CUXOS 11	0.84±0.45	0.71±0.31	0.215
CUXOS 12	1.17±0.97	1.14±0.61	0.032*
CUXOS 13	1.23±0.91	0.96±0.56	0.029*
CUXOS 14	1.49±1.36	1.28±0.97	0.063
CUXOS 15	1.17±0.74	0.9±0.4	0.033*
CUXOS 16	1.43±1.23	1.16±0.85	0.053
CUXOS 17	1.99±1.62	1.51±1.47	0.025*
CUXOS 18	1.43±1.0	0.89±0.37	0.001*
CUXOS 19	1.27±0.92	1.12±0.65	0.127
CUXOS 20	1.21±0.78	1.2±0.75	0.864

*p<0.05 was accepted to be statistically significant.

Table 5. Cognitive Attentional Syndrome-1 questionnaire scores of the participants

	Pregnant women with previous COVID-19 positivity (n=77)	Pregnant women without previous COVID-19 positivity (n=115)	p
CAS-1	2.84±2.17	2.64±2.15	0.529
CAS-2	2.25±1.99	2.26±2.1	0.744
CAS-3	3.48±2.77	3.7±2.79	0.586
CAS-4	2.39±2.27	2.88±2.68	0.111
CAS-5	3.08±2.66	3.08±2.66	0.999
CAS-6	3.67±2.81	3.43±2.55	0.540
CAS-7	1.68±0.46	1.10±0.27	0.350
CAS-8	2.82±2.59	2.7±2.55	0.759
CAS-9	5.08±2.88	4.89±2.97	0.659
CAS-10	4.96±3.1	5.16±2.91	0.658
CAS-11	2.08±1.66	2.4±1.78	0.725
CAS-12	2.04±1.21	2.09±0.96	0.411
CAS-13	2.42±1.68	2.14±1.63	0.882
CAS-14	2.44±2.04	2.5±2.05	0.971
CAS-15	4.39±2.94	5.17±2.91	0.076
CAS-16	4.47±2.8	4.85±2.84	0.356

Table 6. Cognitive and Behavioral Processes Questionnaire scores of the participants

	Pregnant women with previous COVID-19 positivity (n=77)	Pregnant women without previous COVID-19 positivity (n=115)	p
CBP-Q A1	5.08±1.72	4.72±2.11	0.220
CBP-Q A2	3.67±2.18	3.49±2.29	0.580
CBP-Q A3	4.39±2.0	4.1±2.2	0.348
CBP-Q A4	3.75±2.12	3.41±2.25	0.295
CBP-Q A5	3.34±2.4	3.17±2.33	0.638
CBP-Q A6	3.47±1.94	3.42±2.05	0.862
CBP-Q A7	3.9±2.09	3.89±2.05	0.976
CBP-Q A8	3.38±2.23	3.57±2.25	0.580
CBP-Q B1	2.83±1.85	2.87±2.01	0.888
CBP-Q B2	4.2±2.0	3.96±2.38	0.468
CBP-Q B3	2.93±2.25	2.1±1.77	0.007*
CBP-Q B4	3.37±2.29	2.84±2.02	0.097
CBP-Q B5	3.11±2.16	2.75±2.09	0.253
CBP-Q B6	2.8±2.16	2.87±1.98	0.823
CBP-Q B7	2.19±1.58	1.61±0.81	0.012*

*p<0.05 was accepted to be statistically significant.

Discussion

In modern times, transmission of contagious diseases has accelerated markedly due to globalization, climate change and improvement in transportation facilities. That's why, the psychological and psychiatric effects of COVID-19 pandemic highlight the subjectively perceived or real sense of threat coming from other people and received by the individuals who are prone to traumatic stress.[26] The effects of epidemic on mental health also account for fear, uncertainty, anxiety and eventually depression. Besides, social phobia might emerge because of stigmatization and discrimination for people who have Asian origin, working in health care, and those who are subjected to quarantine. [26, 27]

It has been reported that pregnant women had a higher prevalence of anxiety and a lower prevalence of depression than the general population exposed to COVID-19.[28] Moreover, pregnant women were found to have higher prevalence of anxiety and depression than healthcare workers.[29] Therefore, this study has aimed to investigate the psychological effects of COVID-19 on the mental health of pregnant women.

In a recent meta-analysis of 19 studies which examined the psychological effects of COVID-19 on pregnant women, anxiety rates have changed between 6.8% and 90.5% and the overall anxiety rate was calculated as 42%. On the other hand, the depression rates have altered between 5.3% and 38.1% and the overall depression rate was computed as 25%.[30] Among the studies included in this meta-analysis, two trials showed that anxiety symptoms increased, and one trial indicated that depression symptoms deepened in pregnant women following pandemic. [11, 31] In this study, the anxiety and depression scores of the pregnant women with previous COVID-19 positivity were significantly higher than those of the pregnant women who did not reveal previous history of COVID-19.

Age has been addressed as an underlying factor for psychological problems affecting pregnant women during pandemic.[32] Younger maternal age is associated with increased anxiety for delivery whereas older maternal age is associated with reduced depression.[33-35] In parallel with age, another underlying factor is parity because nulliparous mothers tend to report stronger pregnancy-related anxiety than parous women.[36] The third underlying factor has been identified as socioeconomic status.[32] It has been published that all pregnant women of varying socioeconomic potentials were at risk of developing depression if they had financial difficulties related with pandemics. However, pregnant women who worry about their socioeconomic status tend to experience anxiety and depression more frequently.[37, 38]

The other underlying factors for psychological problems affecting pregnant women can be designated as the lack of partner or social support, and history of unfavorable lifetime events.[39-41] As for the present study, pregnant women who had previous COVID-19 positivity and significantly higher anxiety scores and those who revealed no previous history of COVID-19 and significantly lower anxiety scores were statistically similar in aspect of age, parity, socioeconomic status, marital status and previous history of anxiety, depression, self-harm, and loss of a friend/relative to COVID-19.

The reasons for the anxiety experienced by pregnant women during COVID-19 pandemic could be enlisted as the use of public transportation (87.5 %), the fear for infecting other family members (71.7%), being in public places (70.0%), concern for the fetus (70.0%), attending pregnancy check-ups (68.7%), being infected themselves (59.2%), and the outcome of delivery (55.4 %).[35] Previous studies have established that pregnant women care more about their parents, partners, children, and unborn babies than their own health.[42, 43] As pregnant women consume more of their energy for the others' care, their self-care might be impaired, leading to the neglect of their physical and mental health. Thus, pregnant women are more likely to go through psychological disturbances

during COVID-19.

Prenatal depression is estimated to affect 9–11% of individuals at any given time, with 18% of individuals experiencing a depressive episode at some point during pregnancy.[44] Preceding COVID-19 pandemic, 63% of the pregnant women expressed joy for their anticipated delivery while 7.5% of them felt fear and only 0.5% of them expressed sadness for their upcoming birth. After COVID-19 breakout, only 17% of pregnant women felt joy for their anticipated delivery whereas 49% of them expressed fear and 10.5% of them felt sadness. Pregnant women commonly use the word "fear" to describe their expectations for delivery. Although fear is usually associated positive words like joy, happiness, and tranquility before COVID-19 outbreak, this feeling has become to be associated with negative words such as restriction, sadness, loneliness, pain, and anxiety after the pandemic.[33, 43]

The power of these findings is limited by factors such as small sample size, heterogeneous cohort, inclusion of patients with already known psychiatric disorders and lack of longitudinal data and perinatal outcomes. Another power-limiting factor is that this study has been conducted towards the end of the pandemic. During this period, vaccines have been developed for COVID-19 and partial control on the spread of the disease has been ascertained.

Conclusion

This study demonstrates that pregnant women with previous COVID-19 positivity have significantly more anxiety and depression symptoms than the pregnant women who have no previous positivity for COVID-19. Surprisingly, these symptoms did not change significantly with respect to age, parity, socioeconomic status marital status and previous history of psychological disturbance, and loss of a friend/relative to COVID-19. It would be prudent to assume that these improvements might have interfered with the emotions of the pregnant women. Yet, the simultaneous application of scientifically validated and reliable scales for depression and anxiety might add strength to this study. To the best of our knowledge, this is the first study to make concurrent use of five scales for the evaluation of anxiety and depression.

Further research is needed to clarify the effects of COVID-19 pandemic on the psychological well-being of the pregnant women.

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