

EFFECT OF THE CORONAVIRUS PANDEMIC ON ANXIETY IN PREGNANCY

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Abstract

Objective

There is already anxiety during pregnancy, and by the Covid 19 pandemic it has become even more complex. Being pregnant has become more difficult to tolerate mentally with the physiological changes that also exist and the anxiety that Covid 19 adds.

The aim of our study is to clarify the anxiety level of pregnant women during the Covid 19 pandemic. Data has been collected from three hospitals making our study multicentric.

Material and method

Our study concluded with a total of 450 participants who visited centers(May-2020/2022) during their pregnancy. 38 patients were removed from the study for having a high-risk pregnancy that can affect their mood and anxiety levels unrelated to the pandemic. First, written consent has been taken from the participants. After that, they were asked to answer survey tests that demonstrate their sociodemographic and state-trait anxiety scale.

Results

As a result, our study demonstrates that the pandemic affected the mood of patients in a negative manner. In detail, only 3.6 % of our patients have low anxiety levels while most of our participants have high anxiety levels of 20.8 % which makes our study statistically significant. The rest of our patients are in the medium anxiety group.

Conclusion

As a result, with statistical significance, we concluded that psychological support during the pandemic period may be beneficial for a healthy pregnancy.

Keywords : Coronavirus, Pregnant, Anxiety

1. Introduction

The global coronavirus pandemic has disrupted daily life and social routines, leading to profound effects on individual mental health. For pregnant women, this vulnerable period can amplify the symptoms of depression, making their mental and emotional well-being more precarious. Although it is generally expected that pregnancy comes with its own set of challenges, the added stressors brought about by the pandemic can exacerbate these issues. Additionally, the strain on the mother's mental health during this time may have long-term consequences for the newborn, potentially affecting their early development and overall well-being. This highlights the need for comprehensive mental health support for pregnant individuals during such unprecedented times. (Tomfohr-Madsen, Racine, Giesbrecht, Lebel, & Madigan, 2021). Research consistently demonstrates that maternal depression can significantly impact the emotional and cognitive development of infants. Elevated levels of stress and depression during pregnancy not only heighten the risk of preterm birth and low birth weight but also contribute to a range of developmental challenges in newborns. These findings underscore the critical importance of addressing maternal mental health during pregnancy, as it plays a vital role in the long-term well-being of both

the mother and child. Pregnant women represent one of the most vulnerable groups affected by the COVID-19 pandemic. During the prenatal period, the stress and anxiety experienced by mothers can pose significant risks to the developing fetus. The emotional distress of the mother not only impacts her own mental health but can also influence the baby's development in utero, potentially leading to long-term effects on the child's physical and psychological well-being. This highlights the urgent need for targeted support for pregnant women during times of crisis to safeguard both maternal and fetal health.(Akgor et al., 2021). According to a study in the United States, pregnant women were anxious during the pandemic(Lebel, MacKinnon, Bagshawe, Tomfohr-Madsen, & Giesbrecht, 2020). A study conducted in Iran makes points that pregnant women have anxiety during pregnancy, but the anxiety in the third trimester was higher because of Covid 19 19 pandemic(Hamzehgardeshi, Omidvar, Amoli, & Firouzbakht, 2021). A study in Turkey also claimed that pregnant women had anxiety due to pandemics, and high anxiety is related to the patient's personality(Ayaz et al., 2020). The aim of this study is to assess the levels of anxiety among pregnant women visiting a birth clinic in our country during the COVID-19 pandemic. Anxiety in pregnant women can have significant effects on both the mother and the developing fetus, increasing the risks during the prenatal and perinatal periods. Understanding the extent of this anxiety is crucial for addressing the potential health risks it poses to both maternal and fetal well-being during such a critical time.(Sinaci et al., 2020).

2. Material and methods

We used the STAI questionnaire for data collection. Our target population was pregnant women attending our maternity clinics. The questions of the State-Trait Anxiety Inventory (STAI) scale are divided into two scales of 20 questions each, one for anxiety as a state (S) and the other for anxiety as a trait (T) (Guillén-Riquelme & Buela-Casal, 2014).The Ethics Committee approval has been received, issued 12/2021. The Anxiety as a State (S) subscale measures anxiety at a given time. The scales range from 1 to 4 according to Likert, where 1 stands for "not at all," 2 for "a little," 3 for "quite a bit," and 4 for "a lot." The Anxiety as a Trait subscale (T) measures permanent anxiety, the score ranges from 1 to 4 by Likert, where 1 means "never," 2 means "sometimes," 3 means "frequently," and 4 means "almost always." The total score of the anxiety (S) and anxiety (T) subscales can vary between a minimum of 20 and a maximum of 80 depending on the items (Guillén-Riquelme & Buela-Casal, 2014; Gunning et al., 2010).

3. Statistical analysis

In this study, the State-Trait Anxiety Inventory scale (STAI) is used as a data collection tool. The data collection was done with the help of the questionnaire. The database was created using the SPSS Statistics Base 26.0 program, and analysis and processing were done to create tables and figures that can then be described or interpreted. In this survey STAI questionnaire is used. An exploratory factor analysis was used to determine the validity of the instrument for measuring anxiety. The Kaiser-Mayer-Olkin measure of sampling adequacy yielded

a coefficient of 0.934 (KMO > 0.5), while Bartlett's test of sphericity yielded significant results (X2 approx. = 7437.138; gl = 780; p = 0.000). The reliability of the instrument was determined using Cronbach's alpha statistical test, which yielded a coefficient of 0.808 ($\alpha > 0.6$) for the items (i = 40). The start of data collection was previously coordinated with the service managers who would interview with the pregnant women so that both parties would be aware of the research study. This study is important because we will observe in pregnant women if the COVID 19 pandemic and anxiety are related. After all, changes can occur in the prenatal period and even more due to the pandemic.

4. Results

The comparison between pregnant women's anxiety (Table 1)

	low anxiety	medium anxiety	high anxiety
Anxiety Scale	15 (3.6%)	311 (75.4%)	86 (20.8%)
State of Anxiety Scale	13 (3.1%)	318 (77.1%)	81 (19.6%)
Trait of Anxiety Scale	12 (2.9%)	281 (68.2%)	119 (28.8%)

Results indicate that the medium anxiety level is higher than the other groups.

Like the anxiety level noted, the level of anxiety as a state was also noted in our study. The state of anxiety line shows that medium-state anxiety is higher with similar composition (Durankuş & Aksu, 2022). We also noted anxiety as a trait that indicates a similar composition in Table 1.

With the comparison of demographic data, marital status is controlled if it has any significance where the data reflects similar results (Moyer, Compton, Kaselitz, & Muzik, 2020).

	Low Anxiety	Medium Anxiety	High Anxiety	P
Noneducation	2	30	10	*0,45
Primary Education	1	90	8	
High School Graduate	7	160	23	
University Degree	6	68	7	
Single	8	123	17	*0,08
Married	14	225	25	
Primiparous	7	131	24	*0,02
Multiparous	9	118	23	

*Chi-square tests **

When we add education levels to the tables comparable results appear. We can easily say that anxiety in our patients during the Covid 19 pandemic was affected by the situation.

We find that most pregnant women have moderate anxiety, which is why women go through alterations in the body during pregnancy (Kotabagi, Fortune, Essien, Nauta, & Yoong, 2020). Of course, lack of adaptation can alter individuals and may cause anxiety, and even more complicated situations. This effect is also higher when it is your first pregnancy (Corbett, Milne, Hehir, Lindow, & O'connell, 2020). Severe anxiety during the pandemic in multiparous women much less comparing the nulliparous.

5. Discussion

In our results, most pregnant women have medium anxiety, and women sustain physiological and emotional changes (Tomfohr-Madsen et al., 2021). If there is an adaptation problem this may alter their emotions and generate anxiety, depression, and even more (Shorey, Ng, & Chee, 2021). Nulliparity makes pregnant women vulnerable because they face the situation for the first time, and this makes the adaptation process harder (Sun, Zhu, Tao, Ma, & Jin, 2021). Our results also indicate primiparous pregnant women have higher anxiety during the Covid 19 pandemic than multiparous pregnant women (Nowacka et al., 2021). Being infected by Covid 19 is another anxiety source. Due to this current risk of Covid 19, pregnant women are also affected mentally, and it is undeniable that some of this anxiety is since the likely problems in their unborn babies are not known enough and there is truly little information about the subject. Our colleagues are frequently exposed to questions from pregnant women about vaccination, and the lack of sufficient data causes patients to have more difficulties with their current anxieties in the decision-making process.

Patients' current fear of illness combined with both the responsibility of the baby in utero and the responsibility they have for themselves cause them to experience more intense stress and increase the frequency of depression (Kinser et al., 2021). The results we obtained from primiparous pregnant women show that they have higher anxiety levels. If the restrictions applied due to the pandemic cause high anxiety and boredom even in healthy people, it becomes inevitable that the anxiety of pregnant women increases significantly when the anxiety brought by pregnancy is added (Kinser et al., 2021). This elevated level of anxiety continues in the puerperium after pregnancy and becomes more complicated.

6. Conclusions

As a result of the results we obtained, we concluded that more careful follow-up of pregnant women during the pandemic period can reduce the frequency of anxiety (Janik, Cwalina, Iwanowicz-Palus, & Cybulski, 2021; Vacaru et al., 2021).

We think that giving priority to pregnant women in pandemic clinics and less exposure to the environment can significantly reduce the level of anxiety. (Tikka et al., 2021) In addition, more efficient use of the internet may contribute to reducing the level of anxiety to organize outpatient clinic visits of pregnant women online (Esteban-Gonzalo, Caballero-Galilea, González-Pascual, Álvaro-Navidad, & Esteban-Gonzalo, 2021). In addition, we think that providing psychological support from the beginning of pregnancy will make potential problems less felt. Our colleagues have no conflicts of interest to declare (Guillén-Riquelme & Buena-Casal, 2014).

*Ethics committee approval number 48 has been received, issued 12/2021. Our study was conducted in line with the principles of the "Helsinki Declaration". Written informed consent to participate and publish was obtained from all individual participants included in the study. Data is available on request due to privacy or other restrictions. This work has not been presented anywhere before. This research did not receive any specific grant from funding agencies in the public, commercial, or not-for-profit sectors.

References

- Akgor, U., Fadiloglu, E., Soyak, B., Unal, C., Cagan, M., Temiz, B., . . . Ozyuncu, O. (2021). Anxiety, depression, and concerns of pregnant women during the COVID-19 pandemic. *Archives of Gynecology and obstetrics*, *304*(1), 125-130.
- Ayaz, R., Hocaoglu, M., Gunay, T., devrim Yardımcı, O., Turgut, A., & Karateke, A. (2020). Anxiety and depression symptoms in the same pregnant women before and during the COVID-19 pandemic. *Journal of perinatal medicine*, *48*(9), 965-970.
- Corbett, G. A., Milne, S. J., Hehir, M. P., Lindow, S. W., & O'Connell, M. P. (2020). Health anxiety and behavioral changes of pregnant women during the COVID-19 pandemic. *European Journal of Obstetrics, gynecology, and reproductive biology*, *249*, 96.
- Durankuş, F., & Aksu, E. (2022). Effects of the COVID-19 pandemic on anxiety and depressive symptoms in pregnant women: a preliminary study. *The Journal of maternal-fetal & neonatal medicine*, *35*(2), 205-211.
- Esteban-Gonzalo, S., Caballero-Galilea, M., González-Pascual, J. L., Álvaro-Navidad, M., & Esteban-Gonzalo, L. (2021). Anxiety and worries among pregnant women during the COVID-19 pandemic: a multilevel analysis. *International journal of environmental research and public health*, *18*(13), 6875.
- Guillén-Riquelme, A., & Buela-Casal, G. (2014). Meta-analysis of group comparison and meta-analysis of reliability generalization of the State-Trait Anxiety Inventory Questionnaire (STAI). *Revista española de salud publica*, *88*(1), 101-112.
- Gunning, M., Denison, F., Stockley, C., Ho, S., Sandhu, H., & Reynolds, R. (2010). Assessing maternal anxiety in pregnancy with the State-Trait Anxiety Inventory (STAI): issues of validity, location and participation. *Journal of Reproductive and Infant Psychology*, *28*(3), 266-273.
- Hamzehgardeshi, Z., Omidvar, S., Amoli, A. A., & Firouzbakht, M. (2021). Pregnancy-related anxiety and its associated factors during COVID-19 pandemic in Iranian pregnant women: a web-based cross-sectional study. *BMC Pregnancy and Childbirth*, *21*(1), 1-9.
- Janik, K., Cwalina, U., Iwanowicz-Palus, G., & Cybulski, M. (2021). An assessment of the level of COVID-19 anxiety among pregnant women in Poland: A cross-sectional study. *Journal of Clinical Medicine*, *10*(24), 5869.
- Kinsler, P. A., Jallo, N., Amstadter, A. B., Thacker, L. R., Jones, E., Moyer, S., . . . Salisbury, A. L. (2021). Depression, anxiety, resilience, and coping: the experience of pregnant and new mothers during the first few months of the COVID-19 pandemic. *Journal of Women's Health*, *30*(5), 654-664.

- Kotabagi, P., Fortune, L., Essien, S., Nauta, M., & Yoong, W. (2020). Anxiety and depression levels among pregnant women with COVID-19. *Acta Obstetrica et Gynecologica Scandinavica*, 99(7), 953.
- Lebel, C., MacKinnon, A., Bagshawe, M., Tomfohr-Madsen, L., & Giesbrecht, G. (2020). Elevated depression and anxiety symptoms among pregnant individuals during the COVID-19 pandemic. *Journal of affective disorders*, 277, 5-13.
- Moyer, C. A., Compton, S. D., Kaselitz, E., & Muzik, M. (2020). Pregnancy-related anxiety during COVID-19: a nationwide survey of 2740 pregnant women. *Archives of Women's mental health*, 23(6), 757-765.
- Nowacka, U., Kozłowski, S., Januszewski, M., Sierdzinski, J., Jakimiuk, A., & Issat, T. (2021). COVID-19 pandemic-related anxiety in pregnant women. *International journal of environmental research and public health*, 18(14), 7221.
- Shorey, S. Y., Ng, E. D., & Chee, C. Y. (2021). Anxiety and depressive symptoms of women in the perinatal period during the COVID-19 pandemic: A systematic review and meta-analysis. *Scandinavian Journal of Public Health*, 49(7), 730-740.
- Sinaci, S., Tokalioglu, E. O., Ocal, D., Atalay, A., Yilmaz, G., Keskin, H. L., . . . Tekin, O. M. (2020). Does having a high-risk pregnancy influence anxiety levels during the COVID-19 pandemic? *European Journal of Obstetrics & Gynecology and Reproductive Biology*, 255, 190-196.
- Sun, F., Zhu, J., Tao, H., Ma, Y., & Jin, W. (2021). A systematic review involving 11,187 participants evaluating the impact of COVID-19 on anxiety and depression in pregnant women. *Journal of Psychosomatic Obstetrics & Gynecology*, 42(2), 91-99.
- Tikka, S. K., Parial, S., Patojoshi, A., Bagadia, A., Prakash, C., Lahiri, D., . . . Behera, R. N. (2021). Anxiety among pregnant women during the COVID-19 pandemic in India— A multicentric study. *Asian Journal of Psychiatry*, 66, 102880.
- Tomfohr-Madsen, L. M., Racine, N., Giesbrecht, G. F., Lebel, C., & Madigan, S. (2021). Depression and anxiety in pregnancy during COVID-19: A rapid review and meta-analysis. *Psychiatry Research*, 300, 113912.
- Vacaru, S., Beijers, R., Browne, P. D., Cloin, M., Van Bakel, H., Van Den Heuvel, M. I., & De Weerth, C. (2021). The risk and protective factors of heightened prenatal anxiety and depression during the COVID-19 lockdown. *Scientific reports*, 11(1), 1-11.