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PSYCHOLOGICAL MORBIDITY IN PREGNANCY DURING COVID-19 LOCKDOWN

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ABSTRACT

AIM: Study aimed to assess the burden of psychological morbidity due to lockdown in the pregnant females.

MATERIAL AND METHODS: It was an observational study conducted in the department of obstetrics &gynecology, GMC Kathua during the covid lockdown period from June 2020 to August 2020. 100 antenatal patients attending OPD were included in the study after excluding those with hypertension, diabetes, heart disease, bleeding pv,IUGR,oligohydramnios,threatened preterm labour, known psychiatric illness or taking psychotropic medication, prior sleep disorder. The patients were assessed using a questionnairewhich was framed using various scales such as PHQ-9 for Depression, GAD7 for anxiety, Perceived Stress Scale and Insomnia severity index , in addition to incorporating various sociodemographic and obstetrical details.The arbitrary division of PHQ- 9 scores into ratings of minimal (0–4),mild (5–9), and moderate to severe depression (≥10) suggested by Reddy et al. was used in this study. Cutoff points of 5, 10, and 15 were interpreted as representing mild, moderate, and severe levels of anxiety on the Generalized Anxiety Disorder-7 (GAD-7). Insomnia severity index scored on a five-point Likert's scale (0 = no problem to 4 = very severe problem). Score of 0–7 depicted absence of insomnia, 8–14 showedsubthreshold insomnia, 15–21 represented moderate, and 22–28 showed severe insomnia.

RESULTS: The total number of pregnant females analyzed in the study were 100. The age of the patients ranged from 18 years to 36 years, with mean age being 25.65 years. On analyzing Perceived stress scale,66% had low stress levels, 27% had moderate while 7% had high stress levels. Also 31 subjects(31%) had anxiety as depicted by their scores above cut off of 8. 20 patients(20%) had moderate insomnia and 45% had severe insomnia. Mild depression as diagnosed by PHQ-9 score 5-9 was

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found in 33 subjects (33%) whereas moderate to severe depression (PHQ-9 score greater than10) was seen in 10 subjects(10%).
CONCLUSION:We can conclude that the main worries of pregnant women are related to threats to their lives and their baby's health because of the unknown causes of the pandemic. It is important to know that the changes in maternity care have a negative impact on them and they need more support to pass over this period.
Keywords: anxiety, pregnant women, depression

INTRODUCTION

On 11 March 2020, The World Health Organization (WHO) declared the Coronavirusdisease (COVID-19) a pandemic.[1] COVID-19 has been considered a major worldwidehealth crisis in the 21st century and has severely affected the economy, global healthcaresystems and the quality of life of different population groups.[2,3] To date, the NationalInstitute of Public Health has reported around 1,070,000 cases, 1,030,000 recoveries and30,100 COVID-19-related deaths.[4] To limit the spread of the SARS-CoV-2 infection, the various governments hadimplemented intensive health precautions including quarantine, wearing masks and socialdistancing. A national lockdown was declared and all non-essentialtravel and contact with other individuals, outside a person's home environment, wasforbidden. Significant changes were adopted in hospitals such as socialdistancing measures, personal protective equipment for medical staff, postponementof non-essential surgery and changes in healthcare services and protocols.[2,3,5-7]Inprenatal care, "face-to-face" antenatal visits were reduced and telemedicine started to beused. Restrictions were imposed on visits during hospitalization and on birthing partnerpresence.[7] Additionally, at the beginning of the outbreak, much remained unknown, from themeans of transmission and symptoms, to the risk of developing complications related toCOVID-19 and treatment.[2,3,5]Moreover, data on the pregnant women's reaction toSARS-CoV-2 infection and fetal transmission were limited. Social media described thevirus as a "killer", so the fear of death was inevitable among people.[8,9]All of these changes, public panic and flow of misinformation may have exacerbatedthe level of stress and anxiety, especially in the vulnerable populations, which includespregnant women. The quarantine period was associated with loneliness, boredom anduncertainty.[8-10]Pregnancy represents a vulnerable period regarding the psychological and emotionalstate of women and it has been reported that pregnant women go through anxiety anddepressive symptoms compared to non-pregnant women.[11-13]Associating the effectsof the viral disease with pregnancy, this group may be particularly at risk of psychological distress.Stress and depression during pregnancy may be associated with some adverse obstetricaloutcomes including maternal disorders like gestational diabetes, hypertension, abortion,premature birth, lower birth weight or even fetal death.[12-14]To date, a large numberof studies have shown that stress during pregnancy can have a negative influence onpregnancy outcome and as well as on the physiological development of children and their behaviour.[15] Lobe M. et al. showed that pregnancy-specific stress was directlyassociated with preterm delivery and indirectly associated with low birth weight, throughits association with smoking.[15] Some studies suggested that activation of the maternal stress response and the changesin maternal endocrine and inflammatory systems play a role in the etiology of these effectson pregnancy outcome and on child development.[16] Davis EP et al. considered thatprenatal stress can alter the course of fetal neurobiological development.[16] For these reasons, we considered it essential to explore the psychological impact of theCOVID-19 pandemic on this vulnerable group, as well as to identify successful supportivestrategies for helping pregnant women.

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MATERIAL AND METHODS:

It was an observational study conducted in the department of obstetrics &gynecology, GMC Kathuaduring strict lockdown period from June 2020 to August 2020after obtaining approval from institutional ethical committee. It included 100 patients attending the antenatal OPD after excluding those with

1. Obstetrical complications like hypertension, diabetes, heart disease, IUGR, oligohydraminos, threatened preterm labor, bleeding pv.
2. Medical disorders like CAD, CHF, and COPD etc.
3. Known psychiatric illness or taking psychotropic medication or prior sleep disorder.

Subjects were explained the aims of the study and were requested to participate. Written informed consent was obtained from those who were willing to participate.

Instruments used:

1. A semi‐ structured questionnaire:This was a self-made questionnaire for recording sociodemographic details.

2.Patient health questionnaire‐ 9:Depression was assessed by administering the nine‐ item PHQ‐ 9, a self‐ report version of Primary Care Evaluation of Mental Disorders that assesses the presence of major depressive disorder using modified Diagnostic and Statistical Manual, Fourth edition criteria. The PHQ‐ 9 was filled in English by assistance of one of the authors. It assesses the symptoms experienced by participants during the 2‐ week period before they take the survey. [17] On the basis of participant response to the frequency of any particular symptom (0 = not at all, 1 = several days, 2 = more than ½ of the days, 3 = nearly every day), a total score ranging from 0 to 27 was obtained, with higher scores indicating patients' increased self‐ report of depression severity. The arbitrary division of PHQ‐ 9 scores into ratings of minimal (0–4),mild (5–9), and moderate to severe depression (≥10) suggested by Reddy et al. was used in this study.[18]

3. Generalized Anxiety Disorder‐ 7 Scale:It is a seven-item scale to assess anxiety. It has been shown to have good reliability as well as criterion, construct, factorial, and procedural validity.[19] Cutoff points of 5, 10, and 15 are interpreted as representing mild, moderate, and severe levels of anxiety on the Generalized Anxiety Disorder-7 (GAD-7). However, the diagnostic threshold has been reported to be a cutoff score of 8 or more. There is good agreement between self-report and interviewer-administered versions of the scale. In the present study, a cutoff score of 8 or more was used to make the diagnosis of GAD.

4. Insomnia severity index : It contains seven items that assess insomnia over the past 1 month.[20] First three items ask for trouble in initiating, maintaining sleep, and early morning awakening. Other items address dissatisfaction with sleep, daytime functions, recognition of insomnia by others, and finally,distress caused by insomnia. These are scored on a five-point Likert's scale (0 = no problem to 4 = very severe problem). Score of 0–7 depicts the absence of insomnia, 8–14 shows subthreshold insomnia, 15–21 represents moderate, and 22–28 shows severe insomnia.

5.Perceived stress scale (PSS) :This is a 10 items scale by Sheldon Cohen, to evaluate the method of individual's perception of the stressor as a stress. It measures the degree to which the situations in life are perceived as stress full. The score ranges from 0 to 40. The answers are graded on a 5-point Likert Scale ranging from never = 0, almost never = 1, sometimes = 2, fairly often = 3, to very often = 4. Positively framed questions 4, 5, 7and 8 are reverse scored, that is never = 4 to very often = 0, and the scores are summed, with higherscores indicating more perceived stress. A score of fourteen or more is regarded as perceived stress.[21] The levels of stress were arbitrarily divided as follows: low perceived stress: 0–13,

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moderate perceived stress: 14–26, and high perceived stress: 27–40. The levels of stress divisions were selected in accordance to similar studies in India.[22-24]
The questionnairewas filled by health care professional after explaining the details of questionnaire to the participants in their local language. The data was analysed statistically using openEpi. Version 2.3

RESULTS:
The total number of pregnant females analyzed in the study were 100. The age of the patients ranged from 18 years to 36 years, with mean age being 25.65 years. Most of the patients were literate (96%) with maximum of them (37%) having 10+2 qualification. 98 % patients were homemakers and 2% were employed whereas 1% continued to work during the lockdown.* Maximum patients(65%) in the study were primigravidas . 55% patients were in their 3rd trimester, 32% in 2nd trimester and 13% in 1st trimester at the time of enrollement in the study. 36% women accepted that they were worried about their pregnancy because of covid pandemic and lockdown.

Table 1 Demographic profile of the women

Age in years	**Number**	**%**
Below 20	11	11
20-30	60	60
Above 30	29	29
Mean age	25.65 years	
literate	96	96
illiterate	4	4
primigravidas	65	65
Multigravidas	35	35

Mild depression as diagnosed by PHQ-9 score 5-9 was found in 33 subjects (33%) whereas moderate to severe depression (PHQ-9 score greater than10) was seen in 10 subjects(10%).

Table 2 Depression as diagnosed by PHQ-9 score

PHQ-9 score	**Number**
5-9 (Mild)	33
More than 10 (Moderate & Severe)	10

Also 31 subjects(31%) had anxiety as depicted by their scores above cut off of 8. 20 patients(20%) had moderate insomnia and 45% had severe insomnia.

Table 3. Anxiety scores as diagnosed by GAD-7 Scale

ANXIETY	**Number**	**%**
scores above cut off of 8	32	32

Table 4. Insomnia

INSOMNIA	**Number**	**%**
moderate insomnia	20	20
severe insomnia	45	45

On analyzing Perceived stress scale, 66% had low stress levels, 27% had moderate while 7% had high stress levels.

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Table 5. Stress scale

Stress scale	Number	%
low stress levels	66	66
Moderate	27	27
high stress levels	7	7

DISCUSSION

It is already known that previous epidemics had a negative psychological impact on the general population and misinformation increased the anxiety.[25,26] The impact of the COVID-19 pandemic on general population is already known to be negative.[27,28] This period has negatively influenced the healthcare systems, people's social lives and the world economy.[2,3] The research regarding Sars-Cov-2 infection, the disease evolution and its treatment is still ongoing and most information are unclear, pregnancy could be especially affected by the infection. Therefore, the negative feelings are even more understandable and expected, mainly among pregnant women groups. Pregnancy is known as a vulnerable period for women, frequently associated with depression and anxiety, which can have an important impact on pregnancy outcome.[11] All pandemic changes mean loneliness, anxiety or depression.[27,28] During the COVID-19 pandemic, pregnant women have experienced life changes because of restrictive measures and deterioration of social life, concerns about contracting the virus and threats of Sars-Cov-2 infection to their own life and the baby's life, the fear of not having the proper prenatal care because of the changes in healthcare services and protocols.[29]

in this study also 31 subjects(31%) had anxiety as depicted by their scores above cut off of 8. 20 patients(20%) had moderate insomnia and 45% had severe insomnia. Mild depression as diagnosed by PHQ-9 score 5-9 was found in 33 subjects (33%) whereas moderate to severe depression (PHQ-9 score greater than10) was seen in 10 subjects(10%).

There are already some findings that revealed an important prevalence of depression and anxiety among pregnant women. For example, a study from China reported a 34.2% prevalence of depression[9] and a Canadian one with 1987 participants showed depressive symptoms in 37% women and anxiety symptoms in 56.6%.[29]

We already know from previous studies that physical activity and social support reduce the risk of depression during pregnancy.[30-32]Our findings confirm that pregnant women who remained active, regarding professional or social life during pandemic, experienced less negative emotions.

According to our results, emotional aspects are interconnected, life changes during the pandemic such as changes in routine activities (personal care, job, social life), deterioration of the couple's relationship and presence of concerns associated with low confidence in the health system. In addition, the subjective emotional conditions influence the perception of other people's behavior; thus, the negative life changes were associated with a negative perception of the medical staff. Of course, the objectification of a lower dedication of the medical staff can influence the fear and confidence in the medical system.

CONCLUSION

The results of our study confirmed that the COVID-19 pandemic changed pregnant women's lives regarding their daily routine, work or social and family life. These are associated with more concerns about their health and pregnancy outcome. This is important as they are more vulnerable regarding emotional features than the general population. Other aspects which increased negative feelings among pregnant women were the changes of the health system and the limited information about SARS-CoV-2 infection and pregnancy.

The more that changes in women's lives because of pandemic, the more the negative emotional impact was observed among our study participants. At the same time, negative feelings were increased by new measures implemented in hospitals. Therefore, a negative perception of health services and medical staff was noted and this was correlated, in the same situations, with the abandonment of pregnancy care.

We can conclude that the main worries of pregnant women are related to threats to their lives and their baby's health because of the unknown causes of the pandemic. It is important to know that the changes in maternity care have a negative impact on them and they need more support to pass over this period. Considering our findings, the negative feelings of women because of restrictions, especially those related to pregnancy care, should be taken into consideration when preventive measures are established during pandemic. In addition, a psychological support will be essential for improving the mental health of pregnant women during pandemic for preventing negative outcomes of pregnancy and long-term adverse effects on mothers and babies.

REFERENCES

1. Cucinotta, D.; Vanelli, M. WHO Declares COVID-19 a Pandemic. Acta Biomed. 2020, 91, 157–160.
2. Bellato, V.; Konishi, T.; Pellino, G.; An, Y.; Piciocchi, A.; Sensi, B.; Siragusa, L.; Khanna, K.; Pirozzi, B.M.; Franceschilli, M.; et al.Screening policies, preventive measures and in-hospital infection of COVID-19 in global surgical practices. J. Glob. Health 2020, 10.
3. Chmielewska, B.; Barratt, I.; Townsend, R.; Kalafat, E.; Van der Meulen, J.; Gurol-Urganci, I.; O'Brien, P.; Morris, E.; DraycottT.; Thangaratinam, S.; et al. Effects of the COVID-19 pandemic on maternal and perinatal outcomes: A systematic review andmeta-analysis. Lancet Glob. Health 2021.
4. Press Releases—Ministry of Internal Affairs. Available online: https://www.mai.gov.ro/category/comunicate-de-presa/ (accessedon 29 May 2021). (In Romanian)
5. An, Y.; Bellato, V.; Konishi, T.; Pellino, G.; Sensi, B.; Siragusa, L.; Franceschilli, M.; Sica, G.S.; S-COVID Collaborative Group.Surgeons' fear of getting infected by COVID19: A global survey. Br. J. Surg. 2020, 107, e543–e544.
6. Bellato, V.; Konishi, T.; Pellino, G.; An, Y.; Piciocchi, A.; Sensi, B.; Siragusa, L.; Khanna, K.; Pirozzi, B.M.; Franceschilli, M.; et al.Impact of asymptomatic COVID-19 patients in global surgical practice during the COVID-19 pandemic. Br. J. Surg. 2020, 107,e364–e365.
7. Karavadra, B.; Stockl, A.; Prosser-Snelling, E.; Simpson, P.; Morris, E.Women's perceptions of COVID-19 and their healthcareexperiences: A qualitative thematic analysis of a national survey of pregnant women in the United Kingdom. BMC PregnancyChildbirth 2020, 20.
8. Ng, Q.J.; Koh, K.M.; Tagore, S.; Mathur, M. Perception and Feelings of Antenatal Women during COVID-19 Pandemic: ACross-Sectional Survey. Ann. Acad. Med. Singap. 2020, 49, 543–552.
9. Wu, Y.; Zhang, C.; Liu, H.; Duan, C.; Li, C.; Fan, J.; Li, H.; Chen, L.; Xu, H.; Li, X.; et al. Perinatal depressive and anxiety symptomsof pregnant women during the coronavirus disease 2019 outbreak in China. Am. J. Obstet. Gynecol. 2020, 223, 240.e1–240.e9.
10. Ravaldi, C.; Ricca, V.;Wilson, A.; Homer, C.; Vannacci, A. Previous psychopathology predicted severe COVID-19 concern, anxiety,and PTSD symptoms in pregnant women during "lockdown" in Italy. Arch. WomensMent. Health 2020, 23, 783–786.

11. Bennett, H.A.; Einarson, A.; Taddio, A.; Koren, G.; Einarson, T.R. Prevalence of depression during pregnancy: Systematic review.Obstet. Gynecol. 2004, 103, 698–709, Erratum in Obstet. Gynecol. 2004, 103, 1344.
12. Coussons-Read, M.E. Effects of prenatal stress on pregnancy and human development: Mechanisms and pathways. Obstet. Med.2013, 6, 52–57.
13. Grigoriadis, S.; Graves, L.; Peer, M.; Mamisashvili, L.; Tomlinson, G.; Vigod, S.N.; Dennis, C.L.; Steiner, M.; Brown, C.; Cheung,A.; et al. Maternal Anxiety During Pregnancy and the AssociationWith Adverse Perinatal Outcomes: Systematic Review andMeta-Analysis. J. Clin. Psychiatry 2018, 79.
14. Panaitescu, A.M.; Ciobanu, A.M.; Popescu, M.R.; Huluta, I.; Botezatu, R.; Peltecu, G.; Gica, N. Incidence of hypertensive disordersof pregnancy in Romania. Hypertens. Pregnancy 2020, 39, 423–428.
15. Lobel, M.; Cannella, D.L.; Graham, J.E.; DeVincent, C.; Schneider, J.; Meyer, B.A. Pregnancy-specific stress, prenatal healthbehaviors, and birth outcomes. Health Psychol. 2008, 27, 604–615.
16. Davis, E.P.; Glynn, L.M.;Waffarn, F.; Sandman, C.A. Prenatal maternal stress programs infant stress regulation. J. Child Psychol.Psychiatry 2011, 52, 119.
17. Kroenke K, Spitzer RL, Williams JB. The PHQ‐9: Validity of a brief depression severity measure. J Gen Intern Med 2001;16:606‐13
18. Reddy P, Philpot B, Ford D, Dunbar JA. Identification of depression in diabetes: The efficacy of PHQ‐9 and HADS‐D. Br J Gen Pract 2010;60:e239‐45)
19. Spitzer RL, Kroenke K, Williams JB, Löwe B. A brief measure forassessinggeneralized anxiety disorder: The GAD-7. Arch Intern Med2006;166:1092-7.
20. Bastien CH, Vallières A, Morin CM.Validation of the insomnia severity index as an outcome measure for insomnia research. Sleep Med 2001;2:297‐307.
21. Cohen S, Kamarck T, Mermelstein R. A global measure of perceived stress. J Health SocBehav 1983;24:385-96.
22. Cohen S,Williamson G. Perceived stress in a probability sample of the United States. In: Spacapam S, Oskamp S, editors. The Social Psychology of Health: Claramount Symposium on Applied Social Psychology. Nebury Park, CA:Sage; 1988)
23. Thangaraj S, D'souza L. Prevalence of stress levels among first year medical undergraduate students. Int J InterdiscipMultidiscip Stud 2014;1:176-81.
24. Anandhalakshmi S, Sahityan V, Thilipkumar G, Saravanan A, Thirunavukarasu M. Perceived stress and sources of stress among first‐year medical undergraduate students in a private medical college – TamilNadu. Natl J Physiol Pharm Pharmacol 2016;6:9-14.
25. Brooks, S.K.; Webster, R.K.; Smith, L.E.; Woodland, L.; Wessely, S.; Greenberg, N.; Rubin, G.J. The psychological impact of quarantine and how to reduce it: Rapid review of the evidence. *Lancet* 2020, *395*, 912–920.
26. Rubin, G.J.; Harper, S.; Williams, P.D.; Öström, S.; Bredbere, S.; Amlôt, R.; Greenberg, N. How to support staff deploying on overseas humanitarian work: A qualitative analysis of responder views about the 2014/15 West African Ebola outbreak. *Eur. J. Psychotraumatol.* 2016, *7*.
27. Wang, C.; Pan, R.; Wan, X.; Tan, Y.; Xu, L.; Ho, C.S.; Ho, R.C. Immediate Psychological Responses and Associated Factors during the Initial Stage of the 2019 Coronavirus Disease (COVID-19) Epidemic among the General Population in China. *Int. J. Environ. Res. Public Health* 2020, *17*, 1729.
28. Pfefferbaum, B.; North, C.S. Mental Health and the Covid-19 Pandemic. *N. Engl. J. Med.* 2020, *383*, 510–512.

ISSN 2515-8260 Volume 09, Issue 01, 2022

29. 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.
30. Demissie, Z.; Siega-Riz, A.M.; Evenson, K.R.; Herring, A.H.; Dole, N.; Gaynes, B.N. Physical activity and depressive symptoms among pregnant women: The PIN3 study. *Arch. WomensMent. Health* 2011, *14*, 145–157.
31. Demissie, Z.; Siega-Riz, A.M.; Evenson, K.R.; Herring, A.H.; Dole, N.; Gaynes, B.N. Physical activity during pregnancy and postpartum depressive symptoms. *Midwifery* 2013, *29*, 139–147.
32. Giesbrecht, G.F.; Poole, J.C.; Letourneau, N.; Campbell, T.; Kaplan, B.J.; APrON Study Team. The buffering effect of social support on hypothalamic-pituitary-adrenal axis function during pregnancy. *Psychosom. Med.* 2013, *75*, 856–862.