

Original article:

PROSPECTIVE OBSERVATIONAL STUDY OF PREVALENCE OF ANXIETY AND DEPRESSION IN COVID TERTIARY CARE HOSPITAL BY HAD'S SCALE

Dr. P. Ram Kumar, Dr. K.Sravani , Dr. V. Surya Prabha

NRI Institute of Medical Sciences, Visakhapatnam, Andhra Pradesh

Corresponding author: Dr. K.Sravani

ABSTRACT:

Introduction: The corona virus disease (COVID 19) pandemic is having a profound effect on all aspects of society including mental health and physical health. Effect is not only on public but also on health care workers.

Aims and Objectives: Extensive research studies have shown that emotional distress echoed in populations affected by the Covid-19 pandemic. We planned to explore the psychological effects of covid 19 on medical and non- medical people working and attending COVID hospital i.e. NRIIMS Sangivalasa, Visakhapatnam.

The reason for selecting the HAD'S scale is to know Anxiety and Depression in these groups. It is a prospective observational study. Once prevalence is identified, the next aim is to identify the cause of anxiety and depression. There is a need for addressing how mental health consequences for vulnerable groups can be mitigated under pandemic situations. As it is already established that the mental health effects physical health and it is difficult sometimes to differentiate.

Methodology: This study was a prospective observational survey that used convenience rapid sampling (social distancing norms) among Health care workers, pregnant women and their attenders. The survey questionnaire was sent through instant messaging applications. Data collection was conducted from 1st July- 15th September 2020. Total number of subjects surveyed is 300, among which health care workers 150, pregnant women 70, and attenders 80. Results are tabulated using HADS scale.

Results: The prevalence of anxiety (29.6%) is more than depression (25%) among all the 3 groups. Among 3 groups, anxiety is more in pregnant women (31.4%), when compared to health care workers (30%) and in attenders (27.5%). Whereas depression is seen in 38 health care workers (25.3%), 17 of pregnant women (24.28%), 20 of attenders of the pregnant women (25%).

Conclusion: Uncertainty and anxiety prevailed in the society during the pandemic, also increasing the level of stress and fear of social isolation in pregnancy and new mothers. This is the reason to have a basic study population attending antenatal OP and who delivered in NRIIMS. Antenatal OP visits can be taken as advantage for educating and counselling to prevent postpartum psychosis. Identification of early signs of psychological diseases, anxiety and depression among health care workers, pregnant women and attenders.

Key words: Anxiety, depression, HADS score, health care workers, prevalence, COVID-19.

INTRODUCTION:

The present outbreak of COVID-19 first identified in Wuhan, China and rapidly spread across the borders, becoming a global public health threat¹ ([Heymann, 2020](#)). It is a challenge to get information from people in pandemic area, only a portion of people can be surveyed as a sample. In our study the HCW's are more vulnerable group. Non- medical group i.e., antenatal patients and attendants are also prone to Anxiety and depression during pandemics. Extensive research in disaster mental health has established that emotional distress is ubiquitous in affected populations — a finding certain to be echoed in populations affected by the Covid-19 pandemic. Most

people are resilient and do not succumb to psychopathology. Indeed, some people find new strengths. Medical conditions from natural causes such as life-threatening viral infection may end up in psychopathology, such as depressive and anxiety disorders. This is the reason why we contemplated upon this study. Some groups may be more vulnerable than others to the psychosocial effects of pandemics² (Hall et al. [2008](#)). The possibility of Anxiety and Depression are more common in a pregnant lady and especially post- partum. Health care providers are also particularly vulnerable to emotional distress in the current pandemic, given their risk of exposure to the virus, concern about infecting and caring for their loved ones, shortages of personal protective equipment (PPE), longer work hours, and involvement in emotionally and ethically fraught resource-allocation decisions.

The fear of the unknown is termed as anxiety, which is the body's natural response to stress ³(Holland [2018](#)). Depression is explained as a state of disinterest in daily activities. Currently people facing a pandemic with no vaccination would result in fear of the unknown (in this case, the corona virus) making them anxious, stressed and depressed.

Several studies have been conducted on the mental health of people during situations such as lockdown, isolation and quarantine to contain the spread of pandemics. Studies showed that when people are restricted to a certain kind of environment, their mental health gets severely affected. More than a third of the world's population has been put under lockdown with restricted movements to contain the widespread of the virus⁴ (Kaplan et al. [2020](#)). People have been strictly advised to maintain social distance, wear a mask, and sanitize their hands frequently⁵ (Cheng et al. [2020](#)).

1 in 7 women experience anxiety or depression immediately before or after giving birth. The pandemics have made it even worse. Pregnancy is an immune-compromised state, and biological adaptive changes during pregnancy could make women more vulnerable to viral respiratory infections, like influenza. There is limited information available regarding vertical transmission, assessment and management of pregnant women infected with COVID-19 but rapid increase in number of COVID-19 cases certainly results in an increased level of stress and anxiety among pregnant women⁶ ([Luo and Yin, 2020](#)).

Several reports during the lockdown suggest that mental illness is on the rise since the outbreak of this corona virus. Experts from the Psychiatric Society of Goa reported anxiety, depression, stress and other mental health issues were common during the lockdown⁷ ([PTI, 2020](#)). A recent survey conducted by the Indian Psychiatry Society indicates 20% rise in patients suffering from mental illness⁸ ([Lolwal, 2020](#)). The lockdown situation distressed general public. To the author's knowledge, very limited original research on comparison has been conducted on the effect of COVID-19 on mental health of medical professionals and non-medical.

SITUATION IN INDIA:

India reported its first case of corona virus on 30 January 2020⁹ ([Reid, 2020](#)). Presently, with no medicine or vaccine available for Covid-19¹⁰ ([Sanders et al. 2020](#)) the situation has turned worrisome. India is no different from rest of the world, when it comes to the lockdown¹¹ ([Sahu et al. 2020](#)). For Indians, challenges in the medical sector, further worsens the situation¹ ([Chetterje 2020](#)) that rise the psychological distress.

OBJECTIVES:

To address the current gap in the literature, this article aims to estimate the prevalence of anxiety and depression, among Health care workers (Doctors, paramedical staff), pregnant women and attenders working and attending at NRIIMS General Hospital, Sangivalasa during COVID-19. It further aims to identify levels of anxiety and depression in three groups, and to compare all the groups. The study is done by Hospital Anxiety and depression scale.

METHODOLOGY:

STUDY DESIGN: This study was a prospective observational survey among Health care workers, pregnant women and their attenders. The survey questionnaire was sent through instant messaging applications to collect data by electronic survey (social distancing norms). Data collection was conducted from 1st July- 15th September 2020 .Total number of subjects surveyed are 300, among which health care workers 150, pregnant women 70, attenders 80.The survey was in both English & local language. For doctors and nurses questionnaire was sent and their answers were tabulated. For conservancy workers questionnaire was asked in their local language and forms were filled with answers given by them as they are illiterates. Pregnant women and their attenders were explained and forms are filled. The questionnaire was given in the form of pro-forma. Each question had 4 options each having score of 0-3. At the end scores of each individual are calculated. All the ethical procedures were adhered to during this study. The Hospital anxiety depression scale (H.A.D'SCALE) is used to asses anxiety and depression in the past on cancer patients and adolescent girls during puberty. As the scale is very simple to fill up, and we need rapid assessment during pandemic, it is selected for our present study. A score of 0-7 is considered to be normal while a score >8 are considered to be a clinical condition of Anxiety and Depression.

The four important advantages with the HAD Score are

- Independent of Physical symptoms.
- The extents to which its item robustly measure the identified contents with varying clinical population and situations.
- Its capability to differentiate anxiety and depression.
- The acceptability of this to measure in ill and meek respondents.

In this study, the scale is used to know whether there is any influence of pandemic on medical and non-medical subjects.

HAD'S SCALE :

Scoring:

0-7 =Normal

Above 8= clinical cases of anxiety and depression

PARTICIPANTS:

All the participants were over 18 years and from various socio economic backgrounds. Informed consent was obtained prior to start of the survey. No identifying information was asked from any of the participants. As it is a randomized study and follow up is not in the purview of this study, identification is not registered.

INCLUSION CRITERIA:

1. DOCTORS
2. NURSES
3. CONSERVANCY WORKERS
4. PREGNANT WOMEN
5. ATTENDERS

RESULTS:

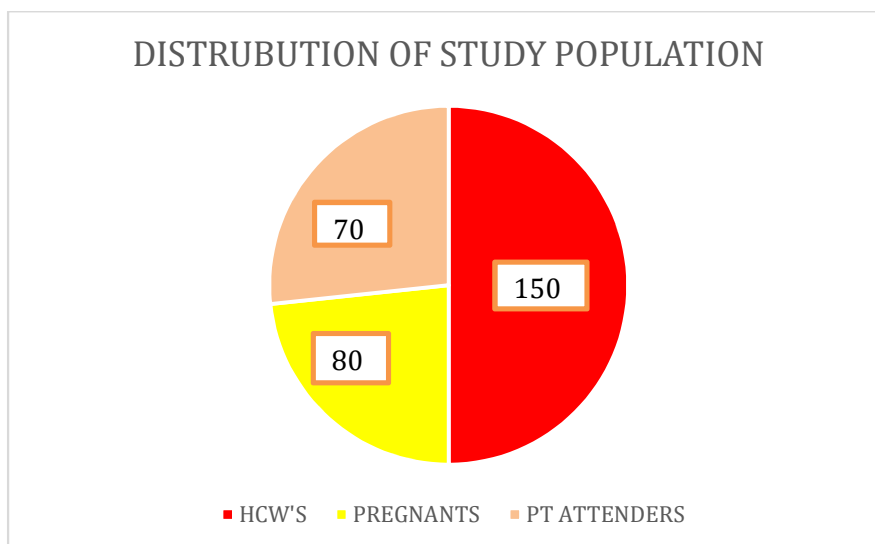
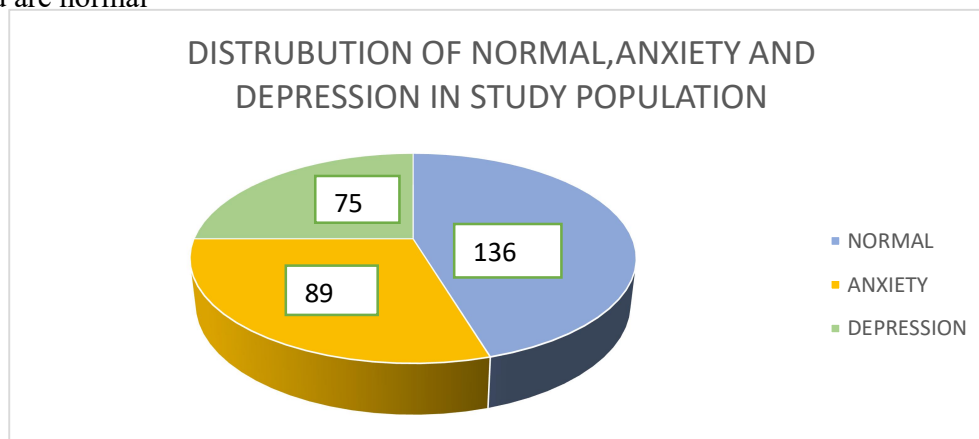


Figure 1: PIE CHART SHOWING DISTRUBUTION OF TOTAL STUDY POPULATION

In our study, out of 300 subjects, 150 are health care workers, 70 are pregnant women, and 80 are attenders. Out of 300 subjects, 89 people has anxiety (29.6%), 75 people has depression (25%), where as normal are 136 (45.3%).

Figure 1: Piechart showing total number of subjects with anxiety, depression and are normal

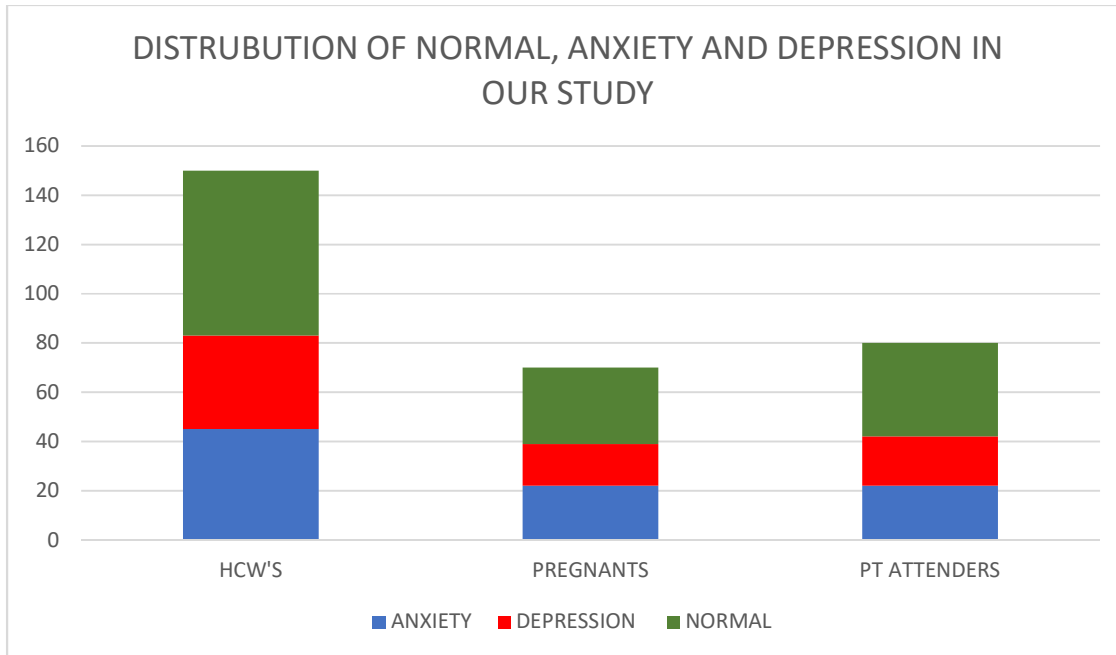


In 150 Health care workers, 45 found to have anxiety (30%), 38 has depression (25.3%), where as 67 are normal (44.6%). In 70 pregnant women, 22 found to have anxiety (31.4%), 17 has depression (24.28%), where as normal are 31 (44.2%). Among 80 attenders, 22 found to have anxiety (27.5%), 20 had depression (25%), while 38 are normal (47.5%).

Table 1: Total number of subjects in three groups having anxiety and depression.

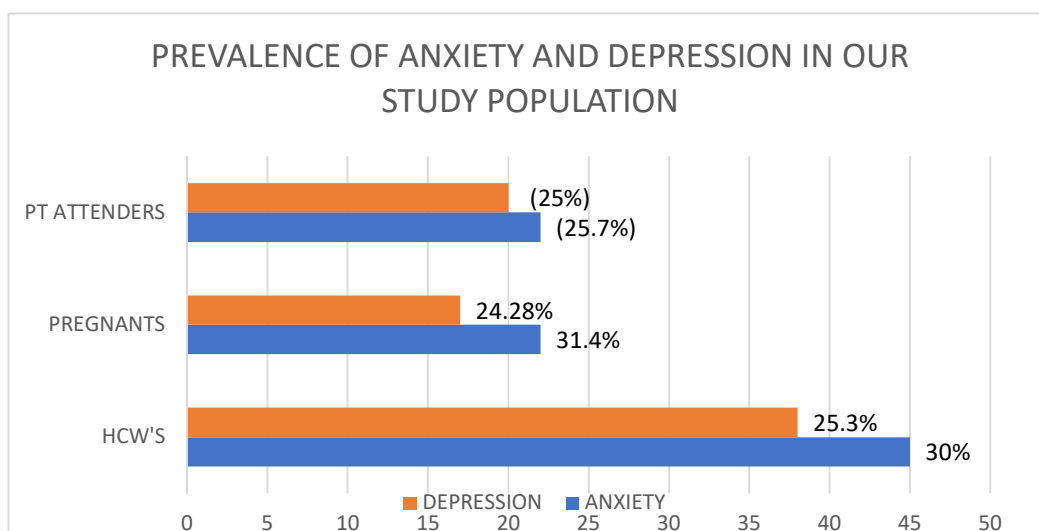
Group	Anxiety	Depression	Normal
Health care workers(HCW'S)(n=150)	45	38	67
Pregnant women(n=70)	22	17	31
Attenders (n=80)	22	20	38

Figure 3: Histogram showing distribution of normal, anxiety, depression in individual groups of study population



Among 3 groups, anxiety is more in pregnant women (31.4%), when compared to health care workers (30%) and in attenders (27.5%). Whereas depression is seen in 38 health care workers (25.3%), 17 of pregnant women (24.28%), 20 of attenders of the pregnant women (25%).

Figure 2: Barchart showing prevalence of Anxiety and depression among the three groups of study population



DISCUSSION:

We planned to explore the psychological effects of covid 19 on medical and non medical people working and attending covid hospital i.e. NRIIMS. The reason for selecting the HAD'S scale is to know Anxiety and Depression in these groups. It is a randomized prospective study. The immediate priority is collection of data. In normal times, it is estimated that globally around 10% of pregnant women suffer from mental disorder, primarily depression and it is even higher (16%) in developing nations¹³ ([Zeng et al., 2020](#)). This may be aggravated during Covid-19 pandemic when pregnant women may have restricted access to mental health services. The mental health repercussion of the COVID-19 pandemic on childbearing women is a major public health challenge, which require appropriate and timely health care support to avert adverse health outcomes¹⁴ ([Topalidou et al., 2020](#)). Hence, pregnant women are not only at risk for medical related issues but also at risk for psychological problems due to public health strategies like social distancing¹⁵ ([Buckens et al., 2020](#)).

In a study by shankey verma et al¹⁶, 25% have depression, 28% of the participants are anxious respectively. In our study, out of 300 subjects, 89 people has anxiety (29.6%) , 75 people has depression (25%), where as normal are 136 (45.3%).But in our study anxiety is more in pregnant women(31.4%), than in health care workers(30%) and attenders (27.5%).

Compared to our study, similar observations are observed in a study identified that more than half of the pregnant women (50.7%) were anxious about their well-being often or all the times. In addition, they were also worried about their other children health (66.7%) as well as the well-being of their unborn child (63.4%) ([Corbett et al., 2020](#))¹⁷. These circumstances exert more distress and stressors on the pregnant mothers that might results in adverse maternal mental health outcomes ([Fakari and Simbar, 2020](#))¹⁸

In our study out of 150 Health care workers, 45 found to have anxiety (30%), 38 has depression (25.3%), where as 67 are normal (44.6%). Another recent Meta analysis of studies, reported pooled prevalence of anxiety to be 23.2 % and that for depression to be 22.8 % (Pappa et al., 2020)¹⁹. Studies from different parts of the world have suggested prevalence of anxiety to range from 11.3%–50% (Zhu et al., 2020²⁰; Lai et al. (2020)²¹; Tanet al., 2020)²² and findings of the present study are within this reported range.

In our study among 70 pregnant women, 22 found to have anxiety (31.4%), 17 have depression (24.28%), where as normal are 31 (44.2%). In another study which included 900 women 520 who were pregnant and 380 who had given birth in the past year. Before the pandemic, 29% had moderate to high anxiety and 15% reported symptoms of depression, which is comparable to our study. During the pandemic, those rates increased to 72% and 41%, respectively. (2020 Jun 20. doi: [10.1016/j.ajp.2020.102261](#)).²³

Depression and anxiety effects 1 in 7 during perinatal period and associated with increased preterm delivery, reduced mother -infant bonding, delay in cognitive and emotional development of the infant. With this survey, we aim to rapidly assess the influence of the covid 19 pandemic and subsequent follow-up.

Lee et al. (2006)²⁴ State anxiety was higher in pregnant women (mean score 37.2) during the SARS pandemic than a comparative pre-SARS group (mean score 35.5, p=0.02) while no significant difference was found in trait anxiety scores. The SARS cohort was slightly more likely to score highly on depression, but not significantly. 18.4% of

women felt uneasy even at home due to SARS, 54.7% felt a lack of security, and 48.3% a loss of freedom. Participants reported worries and fears, primarily regarding the risk of infection (see ‘concerns about risk of infection’ theme).

Ng et al. (2013)²⁵ Mean STAI-state anxiety score was 50.4 (range 23-80). 65.2% experienced moderate anxiety, 22.6% high anxiety, and 12.2% low level anxiety. Age, marital status, gestational age, parity, education level and gestational complications were not significantly associated with anxiety level but there was a significant relationship between state anxiety score and extent of socioeconomic impact ($p < 0.01$) where higher anxiety was associated with higher socioeconomic impact. During epidemics, the mental health of health care professionals is worst affected as they are the frontline soldiers at these critical times. Although there is a lack of research on how the lockdown situation has impacted mental health, some researchers held studies like²¹ [Lai et al. \(2020\)](#) in their cross-sectional study on health care professionals in China found one in two participants reported depressive symptoms, more than two in five reported anxiety, one in three reported insomnia, and almost three in four were distressed.

Prevention efforts such as screening for mental health problems, psycho education, and psychosocial support should focus on these and other groups at risk for adverse psychosocial outcomes.

CONCLUSION:

It is a challenge to get information from people in the pandemic areas; only a portion of people can be surveyed as a sample. In our study, the HCW's are a more vulnerable group. Non- medical groups i.e., antenatal patients and attendants are prone to anxiety and depression during pandemics. Considering the situation, the following practices can be implemented and advised to other medical professionals as HAD'S scale is very simple and patient-friendly to survey. It is also easy to calculate anxiety and depression in individuals. The study is helpful for Counselling and educating Antenatal patients to reduce postpartum psychosis could be started in antenatal OPD. Identification of early signs of psychological diseases, anxiety, and depression among health care workers, pregnant women, and attenders. Educating conservancy workers regarding safety measures to alleviate their anxiety and fear by following universal precautions and covid special measures. Educating everybody regarding social distancing and implementing it in OPD's and directing them to do at homes. Psychosocial services, which are increasingly delivered in primary care settings, are being offered by means of telemedicine. In the context of Covid-19, psychosocial assessment and monitoring should include queries about Covid-19-related stressors. In the milder end of the psychosocial spectrum, the public can be appropriately normalized by providing information about usual reactions to stress and can manage. Health care providers can offer suggestions for stress management and coping (such as structuring activities and maintaining routines), link patients to social and mental health services. They counsel patients to seek professional mental health assistance when needed, as media reports can be emotionally disturbing, contact with pandemic-related news should be monitored and limited. Education and training regarding psychosocial issues should be provided to health system leaders, first responders, and health care professionals. Risk-communication efforts should anticipate the complexities of emerging issues such as prevention directives, vaccine availability and acceptability are needed.

Acknowledgements:

1. Postgraduates of Obstetrics & Gynecology department of NRIIMS, Sangivalasa, Visakhapatnam.
2. Doctors, Nurses, conservancy workers working in COVID19 hospital, NRIIMS,
3. Pregnant women and their attenders visited and delivered at Dept of OBG, NRIIMS.

References:

1. Heymann D.L. Data sharing and outbreaks: best practice exemplified. *Lancet*. 2020; 395:469–470. [PMC free article] [PubMed] [Google Scholar]
2. Hall R, Hall R, Chapman M. The 1995 Kikwit Ebola outbreak: Lessons hospitals and physicians can apply to future viral epidemics. *General Hospital Psychiatry*. 2008; 30(5):446–452. doi: 10.1016/j.genhosppsych.2008.05.003. [PMC free article] [PubMed] [CrossRef] [Google Scholar]
3. Holland, K. (2018, May 24). Anxiety: Causes, symptoms, treatment, and more. Retrieved 24 from <https://www.healthline.com/health/anxiety>.
4. Kaplan, J., Frias, L., & McFall-Johnsen, M. (2020, April 13). A third of the global population is on corona virus lockdown — here's our constantly updated list of countries and restrictions. Retrieved from <https://www.businessinsider.com/countries-on-lockdown-coronavirus-italy-2020-3?IR=T>.
5. Cheng V, Wong S, Chuang V, So S, Chen J, Sridhar S, et al. The role of community-wide wearing of face mask for control of coronavirus disease 2019 (COVID-19) epidemic due to SARS-CoV-2. *Journal of Infection*. 2020 doi: 10.1016/j.jinf.2020.04.024. [PMC free article] [PubMed] [CrossRef] [Google Scholar]
6. Luo Y., Yin K. Management of pregnant women infected with COVID-19. *Lancet Infect. Dis*. 2020; 20:513–514. [PMC free article] [PubMed] [Google Scholar]
7. PTI. (2020, April 10). Goa: Coronavirus lockdown triggers rise in mental health issues. <https://www.deccanherald.com/national/west/goa-coronavirus-lockdown-triggers-rise-in-mental-health-issues-823707.html>
Google Scholar
8. Lolwal, M. (2020, March 31). 20% increase in patients with mental illness since coronavirus outbreak: Survey. <https://www.indiatoday.in/india/story/20-per-cent-increase-in-patients-with-mental-illness-since-coronavirus-outbreak-survey-1661584-2020-03-31>
Google Scholar
9. Reid, D. (2020, January 30). India confirms its first coronavirus case. <https://www.cnn.com/2020/01/30/india-confirms-first-case-of-the-coronavirus.html>
10. Sanders J, Monogue M, Jodlowski T, Cutrell J. Pharmacologic treatments for Coronavirus Disease 2019 (COVID-19) *JAMA*. 2020 doi: 10.1001/jama.2020.6019. [PubMed] [CrossRef] [Google Scholar]
11. Sahu D, Agrawal T, Rathod V, Bagaria V. Impact of COVID 19 lockdown on orthopaedic surgeons in India: A survey. *Journal of Clinical Orthopaedics and Trauma*. 2020 doi: 10.1016/j.jcot.2020.05.007. [PMC free article] [PubMed] [CrossRef] [Google Scholar]

12. Chetterje P. Gaps in India's preparedness for COVID-19 control. *The Lancet Infectious Diseases*. 2020;20(5):544. doi: 10.1016/s1473-3099(20)30300-5. [PMC free article] [PubMed] [CrossRef] [Google Scholar]
13. Zeng L.-N., Chen L.-G., Yang C.-M., Zeng L.-P., Zhang L.-Y., Peng T.-M. Mental health care for pregnant women in the COVID-19 outbreak is urgently needed. *Women Birth: J. Aust. Coll. Midwives*. 2020 [PMC free article] [PubMed] [Google Scholar]
14. Topalidou A., Thomson G., Downe S. COVID-19 and maternal mental health: are we getting the balance right? *MedRxiv*. 2020 [Google Scholar]
15. Buckens P., Alger J., Bréart G., Cafferata M.L., Harville E., Tomasso G. A call for action for COVID-19 surveillance and research during pregnancy. *Lancet Glob. Health*. 2020 [PMC free article] [PubMed] [Google Scholar]
16. Depression, anxiety, and stress and socio-demographic correlates among general Indian public during COVID-19
Shankey Verma, Aditi Mishra
17. Corbett G.A., Milne S.J., Hehir M.P., Lindow S.W., O'connell M.P. Health anxiety and behavioural changes of pregnant women during the COVID-19 pandemic. *Eur. J. Obstet. Gynecol. Reprod. Biol.* 2020;249:96. [PMC free article] [PubMed] [Google Scholar]
18. . Fakari F.R., Simbar M. Coronavirus pandemic and worries during pregnancy; a letter to editor. *Arch. Acad. Emerg. Med.* 2020;8 [PMC free article] [PubMed] [Google Scholar]
19. Pappa S, Ntella V, Giannakas T et al (2020) Prevalence of depression, anxiety, and insomnia among healthcare workers during the COVID-19 pandemic: a systematic review and meta-analysis. *Brain Behav Immun*. <https://doi.org/10.1016/j.bbi.2020.05.026>
20. Zhu, N., Zhang, D., Wang, W., Li, X., Yang, B., Song, J., . . . Tan, W. (2020). A Novel Coronavirus from Patients with Pneumonia in China, 2019. *New England Journal of Medicine*, 382(8), 727–733. <https://doi.org/10.1056/NEJMoa2001017>.
21. Lai, J., Ma, S., Wang, Y., Cai, Z., Hu, J., Wei, N., et al. (2020). Factors associated with mental health outcomes among health care workers exposed to coronavirus disease 2019. *JAMA Netw. Open*. 3:e203976. doi: 10.1001/jamanetworkopen.2020.3976
PubMed Abstract | CrossRef Full Text | Google Scholar
22. The COVID-19 pandemic and health inequalities
Clare Bambra¹, Ryan Riordan², John Ford², Fiona Matthews¹ Tanet al., (2020)
23. Maternal mental health amidst the COVID-19 pandemic
Author links open overlay panelNaureen AkberAliAnamShahil Feroz10.1016/j.ajp.2020.102261).²³
24. Lee, D.T., Sahota, D., Leung, T.N., et al. (2006). Psychological responses of pregnant women to an infectious outbreak: A case-control study of the 2003 SARS outbreak in Hong Kong. *Journal of Psychosomatic Research*, 61(5), 707-713.
25. Ng, J., Sham, A., Leng Tang, P. & Fung, S. (2004). SARS: Pregnant women's fears and 520 perceptions. *British Journal of Midwifery*, 12(11), 698-703.

Author Declaration: Source of support: Nil, Conflict of interest: Nil

Was informed consent obtained from the subjects involved in the study? YES

For any images presented appropriate consent has been obtained from the subjects: NA

Plagiarism Checked: Urkund Software

Author work published under a Creative Commons Attribution 4.0 International License

DOI: 10.36848/IJBAMR/2020/29215.55900

