

PSYCHOLOGICAL IMPLICATIONS OF COVID-19 ON PERINATAL WOMEN: A LITERATURE REVIEW

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Abstract: Globally COVID-19 disease sources stress and anxiety for perinatal women. The current study aimed to conduct a literature review of the psychological implications of COVID-19 on perinatal women. **Methodology:** The current study was investigated using a diversity of key words such as “psychological implications and/or pregnancy,” “psychological implications and/or COVID-19”, “perinatal women and/or coronavirus”, without limit of language. Other data related to psychological implications of COVID-19 on perinatal women and reported cases were conducted utilizing seven electronic databases (CINAHL, MEDLINE, ProQuest, PubMed, Scopus, Science Direct, and Cochrane) for studies published in various languages at the international peer reviewer journals from August 2021 to December 2021. **Results:** The current study concluded that COVID-19 has substantial psychological implications on perinatal women negatively, and the level of anxiety and depression symptoms of gravid women during the COVID-19 infection suggestively increased. The levels of stress and anxiety in gravid and puerperium women during the COVID-19 pandemic are moderate to high. Anxiety and distress lean towards to be higher in women with previous psychiatric accomplishment and those in the first trimester of pregnancy. Pregnant, postpartum, miscarriage women and those who undergoing intimate partner violence are at particularly high risk for emerging negative psychological implications during the pandemic. Social support is a key protective factor. It can be enhanced via online contact such as telehealth visits and online support groups.

Keywords: "psychological implications, perinatal women, coronavirus, COVID-19".

1. INTRODUCTION

1.1 Background

The perinatal period is defined as pregnancy time and the first year postnatal that a period of increase susceptibility to negative psychological health implications. About one in seven perinatal women experience upgraded distress, depression, and anxiety especially high-risk pregnant women (*Fairbrother, et al., 2017*). Numerous gravid women have high level of fear as a result of the scarceness of ultimate data on the effects of COVID-19 pandemic during pregnancy (*Almeida, et al., 2020*). The pandemic causes reflective psychological responses including panic, hyperarousal, sleep disturbance, anxiety, depression, traumatic stress disorders and isolation for pregnant and postpartum women (*Werner, et al., 2020; Cheng, et al., 2020*). community safety rules mandatory such as border closures, transportation restrictions, social isolation to decrease the spread of infection can cause negative psychological effects on people (*Wang, et al., 2019; Milgrom, et al., 2019*).

Unfortunately, *Ayaz, et al. (2020)* added that around ten to fifteen of all pregnant women practice a diversity of psychological fluctuations that upsurge the jeopardy of anxiety and depression, which can affect unfavourably both gravid woman and the fetus. On other hand, pregnant woman who has anxiety and depression may increase the danger for miscarriage, preterm birth, lower birth weight, lower Apgar score, and fetal death. In addition, children of pregnant women with increased stress may show emotional, behavioural, and cognitive complications and may be at higher risk for neurodevelopmental damage. Furthermore, psychological complications of the coronavirus include pandemic activated emotional state of terror, doubt, and nervousness further to the effects of limiting the population's events in lockdown (*Omar, et al., 2021*).

A grade of terror has been caused everywhere in the world because of quickly spread, prevalent and commanding infectiousness of COVID-19. Pregnant women are experiencing indefinable fluctuations in mental and physical health by means of changing roles from usual women to mothers. Globally, approximately ten percent of pregnant women and thirteen percent of women who have just given birth experience a psychological illness. Unfortunately, the prevalence increased in undeveloped countries, 15.6 % at antenatal period and 19.8 % at puerperium (*WHO, 2020; Wang et al., 2020*). All over the world prevalent of coronavirus encouraged psychological problems such as panic, stress, sleep disturbance, anxiety, hesitation, fear and depression that have the dimensions to deplete coping mechanisms and lead to psychiatric illness (*Qiu, et al., 2020*).

Normally, pregnancy is associated with physical and psychological changes. Fetal well-being, the result of delivery and breastfeeding usually are the concerns of pregnant women beside their own health condition (*Corbett, et al, 2020; Salehi, et al., 2020; Ceulemans, et al., 2020*). Concerns of fetal death or fetal abnormalities also are causes of stress and anxiety (*Saccone, et al., 2020*). Consequently, catastrophic events or natural disasters are one of the issues that can disturb the pregnant women mental health due to feeling of insecure (*Feduniw, et al., 2020; Thapa, et al., 2020*).

The existing COVID-19 pandemic is measured as a disaster through many worldwide health problems, there was extra 22 million people around the world are suffering from it and further 791,000 people died (*WHO, 2020*). Limitations of the social distance, quarantine and isolation measures to slow transmission rates of infection prevents having communication with families, supports, and others upsurge tension, anxiety, despair and have contributed to the risk of mental health consequences such as depression in people's life everyday (*Mehta et al., 2020; Mahase, 2020*). Gravid women likewise are responsible of caring for additional family members. On the other hand, the antenatal follow up visits upsurges the danger of infection with viruses (*Hussein, 2020*).

1.2 Statement of the problem

Certainly, perinatal women who are previously susceptible to psychological disorders are concerned with their own health beside their foetuses from infectious diseases. The COVID-19 pandemic may aggravate perinatal women's perinatal distress and psychiatric illness (*Ceulemans, et al., 2020*). Women who are pregnant, postpartum, or miscarrying, are at particularly increase danger for emerging psychological problems during the pandemic (*Almeida, et al., 2020*). Because of the compromised immunological functions, the most susceptible cluster for risk are perinatal women, changed physiology and vulnerability to infections (*Dashraath, et al., 2020*).

Physiologically perinatal women may experience psychological implications accompanying with some possible adverse obstetrical outcomes including foetal death. Furthermore, perinatal women may face increased psychological implications during infectious disease outbreaks such as the current COVID-19 pandemic (*Zhang and Ma, 2021*). Up to the present time, there are inadequate studies on the psychological implications of COVID-19 on perinatal women. Therefore, the current study aimed to conduct a literature review of the psychological implications of COVID-19 on perinatal women through investigating the psychological implications of COVID-19 on perinatal women.

1.3 Research Question

What are the psychological implications of COVID-19 on perinatal women?

1.4 Study Objective

The aim of this study was to conduct a literature review of the psychological implications of COVID-19 on perinatal women through investigating the psychological implications of COVID-19 on perinatal women.

2. METHODOLOGY

2.1 Research Design

The current study was designed as integrated literature review to stand on the psychological implications of COVID-19 on perinatal women.

2.2 Data collection

The current articles were searched using a variety of key words such as “psychological implications and/or pregnancy,” “psychological implications and/or COVID-19”, “perinatal women and/or coronavirus”, “pregnant women and/or coronavirus”, without limit of language to document assembling of as various cases as possible. Other data related to psychological implications of COVID-19 on perinatal women and reported cases were conducted utilizing seven electronic databases (CINAHL, MEDLINE, ProQuest, PubMed, Scopus, Science Direct, and Cochrane) for studies published in various languages at the international peer reviewer journals from August 2021 to December 2021.

2.3 Study inclusion criteria:

All studies about the psychological implications of COVID-19 on perinatal women. Inclusion and exclusion criteria were defined prior to initiating the literature reviews. Peer-reviewed articles were included on how women in particular are affected by COVID-19, as well as the mental health impacts of quarantine and social isolation. View articles not validated by objective data were omitted.

2.4. Selection criteria:

Papers articles were included in the systematic review analysis were considered and should meet the following criteria: Original studies about perinatal women’s psychological response to COVID-19; describing the results of psychological reactions related to perinatal women and not a case report.

All retrieved papers articles go through the review method. Firstly, all duplicate papers were deleted. Then, abstracts and titles of the remaining papers articles were read to regulate if they are relevant to this study. Finally, the full text of the remaining papers articles after browsing the abstracts and titles were reviewed carefully according to the inclusion criteria. Papers articles still included after the above steps will be used in conducting the current study.

3. DISCUSSIONS

The aim of the current study was to conduct a literature review of the psychological implications of COVID-19 on perinatal women through investigating the psychological implications of COVID-19 on perinatal women. Pregnancy is a worthwhile life period, which difficulties physical, psychological and social modification to a new role. In wide-ranging, pregnant women are not disposed to stress and anxiety compared to non-pregnant women (*Barber and Steadman, 2018*). However, women with complicated pregnancies report higher levels of anxiety symptoms in comparison with low-risk pregnancies (*Abrar, et al., 2020; Preis, et al., 2020*). Literature data on the effect of coronavirus infection on pregnancy outcome and its long-time impact on the neonate and infant are still somewhat threatened. Though, Generally, psychological suffering is supposed to play a significant part in the incidence of adverse pregnancy outcomes, preterm delivery included (*Nodoushan, et al., 2020*).

The perinatal period is a time when numerous women become more susceptible to psychiatric ailment (*Dickens and Pawluski, 2018*). Psychosocial exposures such as substance abuse, intimate partner violence (IPV) and hormonal mediated mood fluctuations can have reflective lasting effects on women mental health, child development and the mother-child bond. Psychiatric ailment during pregnancy is accompanying with insufficient antenatal care and poor maternal health. Mental health disorders through the perinatal period are common in the United State with a prevalence of 25.3% antenatally and 27.5% throughout the puerperium stage (*Ahorsu et al., 2020*).

Though the information regarding the psychological consequence of the COVID-19 pandemic on pregnant women are inadequate, utmost research propose that it has a modest to severe influence (*Lebel, et al., 2021*). Remarkably, pregnant women in the first trimester are more susceptible to anxiety and emotional distress compared to their complements in second and third trimester of pregnancy (*Saccone, et al., 2020; Ayaz, et al., 2020*). *Mappa, et al., (2020)* advocated that

high educational level was considered a risk factor of high levels of anxiety in pregnant women. Also, the beliefs and concerns of pregnant women are the main factors of psychological implications during pandemic (*Stepowicz, et al., 2020*). The perinatal psychological problems are evident as a damaging to the perinatal women and growth their babies. During COVID-19 pandemic, perinatal women may experience extra psychological implications from upsetting about their unborn baby (*Ryan, et al., 2020*).

Pregnant women are probable to be further exaggerated during COVID-19 pandemic. As well, there is much evidence that antenatal psychological implications unfavourably affect the babies. In a follow-up study of about 20 years, the offspring of depressed parents have a triple risk of anxiety, depression, and substance dependence as the offspring of non-depressed parents. It may lead to a lack of attention to themselves, which can lead to the neglect of their health. This could also be one of the reasons why mental problems increase in pregnant women during COVID-19. Correspondingly, pregnant women's expectations of childbirth and obstetric decisions extremely affected by COVID-19 pandemic (*Fan, et al., 2021*). A systematic review and meta-analysis found that, the total informed anxiety rate was less than fifty percent and anxiety rates recognised in the studies included in the meta-analysis ranged from 6.8%–90.5%. The total informed depression rate was twenty five percent and depression rates recognised in the studies included in the meta-analysis ranged from 5.3%–38.1%. Negative psychological implications are common in pregnant women. On the other hand, compared with the general population, pregnant women had a higher mixed prevalence of anxiety and a lower prevalence of depression (*Luo, et al., 2020*).

Fortunately, there was an important association between trimesters of pregnancy and some pointers of undesirable health implications such as improved tension from work and home, feeling anxious and abandoned during the starting of the coronavirus infection. Throughout the starting of the coronavirus infection, majority of pregnant women (85.9%) informed that they had paid more attention to their mental health condition, spent time to rest (71.4%) and relax (73.4%). Conversely, more than three quarter of pregnant women (78.0%) reported that the time spent to exercise as before the COVID-19 outbreak. During first trimester of pregnancy, pregnant women were more expected to pay extra attention to mental health than pregnant women in second and third trimester of pregnancy. Furthermore, pregnant women in second and third trimesters of pregnancy were further expected to spend extra time to rest and relax than pregnant women in first trimester of pregnancy. Though, pregnant women in first trimester of pregnancy were more likely to spend more time exercising than pregnant women in second and third trimesters of pregnancy (*Zhang and Ma, 2021*).

Regarding pregnancy trimester, Women with mental treatment history, those in the first trimester of pregnancy and the ones that are single or in an informal relationship tend to experience higher levels of psychological suffering and anxiety. Such factors as age, education, parity, exciting obstetric history, illnesses, and the period of hospital stays demonstrated to be statistically insignificant (*Stepowicz, et al., 2020*). A study by *Lebel, et al., (2021)* found that age may be associated with the probability of psychological complications in pregnant women. Unfortunately, the older a pregnant woman is, the less probable to anxiety and depression. In a survey of 257 applicants, the youngest age group (from eighteen to twenty-five years) was more probable to both depression and anxiety (*Patabendige et al., 2020*). The younger the woman is, the higher anxiety regarding delivery (*Taubman-Ben-Ari et al., 2020*). Additional studies proved that younger age was associated with higher maternal negative psychological implications such as anxiety (*Matsushima and Horiguchi, 2020; Berthelot et al., 2020*).

As well, economic level of pregnant women's family is also considered. Low socioeconomic status was established as one of numerous risk factors for depressive symptoms. Pregnant women who fear from the cost were more probable to have depression. But, pregnant women with both high and low incomes were at risk of depression if they experienced COVID-19-associated financial stress (*Thayer et al., 2020*). Stress scores were significantly correlated with everyday income. The same findings also were proved by *Effati-Daryani, et al., (2020)*. Regarding birth experience, the primary emotions of more than fifty percent of pregnant women before COVID-19 were happy, less fear, and virtually no sadness. Regrettably, after COVID-19, sadness and fear increased, whereas happiness is decreased. In addition, pregnant women described birth prospects before COVID-19 by using optimistic words such as joy, happiness, sharing, and tranquillity compared to adverse words such as restriction, sadness, loneliness, pain, anxiety, and incompetence after COVID-19 that are evidence of fear (*Ravaldi et al., 2020*).

Unfortunately, pregnant women concerns looked to care extra family individuals such as their elders (parent and parent in law), husband, baby, and baby's future than their health, that lead to a diversity of negative psychological changes (Ravaldi, et al., 2020; Corbett et al., 2020). Regrettably, the women dedicate extra vigour to caring for others. Utmost pregnant women changed their obstetric decisions as a result of COVID-19. An Italian study conducted by Lebel, et al., (2021) revealed that pregnant women changed prenatal care (eighty nine percent) and birth plan (thirty five percent). In addition, the hospital preference choice, mode of delivery, infant feeding, place of the postnatal resting has also changed (Liu et al., 2020). Luckily, pregnant women who received further social support and involved in additional physical work were less probable to suffer from psychological complications (Yue et al., 2020; Gu et al., 2020).

Numerous studies as yet reveal that pandemic-related stressors are markedly increasing perinatal mental health encounters. Pregnant women after COVID-19 had higher total Edinburgh Postnatal Depression Scale (EPDS) scores, superior possibility of scoring above the cut-off for probable major depression, higher scores on the anxiety subscale, and superior possibility of approving suicidal feelings. Over time, EPDS scores correlated with the number of new COVID-19 cases and deaths announced each day (Wu et al. 2020). Correspondingly, other studies findings by Berthelot, et al. (2020) and Lebel, et al. (2021).

Women can become frustrated by the deficiency of precision regarding the perinatal implications of COVID-19 and quickly changing care rules and strategies. In isolation, antenatal and postpartum care, along with treatment protocols for COVID-19 women, should reflect psychological assessment and the biopsychosocial requirements of each woman to decrease the psychological burden of the threat of COVID-19 and prevent long-term negative psychological implications (Zhou, et al., 2020). Plans to support perinatal women's psychosocial well-being included improved nursing staff, redistribution of patient-facing research staff to role as support persons in pregnancy, labour, delivery and postpartum, and assistance in linking perinatal women virtually with family members and mental health facilities contribution individual and group psychotherapy (Hermann, et al., 2020).

Perinatal women are susceptible to negative psychological fluctuations during the COVID-19 pandemic and justify particular care to deal with the high level of anxiety and depression created by a period of hesitation and tension (Stepowicz, et al., 2020; Ayaz, et al., 2020). Pregnant women need prenatal care during COVID-19 pandemic whereas actions are taken to prevent infection such as systematic telephone appointments by health care provider. The web plays an important role to spread COVID-19 data to pregnant women to decrease the incorrect perception and extreme terror of pregnant women about COVID-19. Altogether, family members should give pregnant women extra care and support, always hang on to the psychological changes of pregnancy and psychological counselling can be needed if required (Fan, et al., 2021).

Women who have miscarriage compared to women who preserve viable pregnancies, women who miscarry have higher rates of posttraumatic stress symptoms as well as depression and anxiety. In non-pandemic conditions, women with miscarriage can elect for expectant care; medical or surgical treatment. Throughout the pandemic, women may elect to miscarry at home due to wanting to decrease the risk of COVID-19 infection exposure in a medical setting. The American Psychological Association commends many policies to lessen these struggles, such as launching a structured routine, acknowledging one's feelings, relaxing screen time rules, practicing self-care such as good sleep, hygienic care, healthy eating habits, meditation, yoga and getting virtual specialized service if obligatory (American Psychological Association 2020; Almeida, et al., 2020). Fortunately, moderate physical activity throughout antenatal period is play a significant role in declining negative psychological implications (Limbers, et al., 2020).

Throughout the coronavirus pandemic, pregnant women feel fear from their ailment and their family members when commuting to hospitals, and because of these stress and anxiety, they want to terminate their pregnancies prematurely or by caesarean section (CS). These pregnant women feel fear and anxiety on the health of their fetus and baby during the pandemic period (Ahorsu, et al., 2020). The results of the study by Qiu, et al., (2020) demonstrated that pregnant women concern with their pregnancies as the second priority that because of maternal mental health disorders throughout pandemic. At the side of the end of pregnancy, women experience high levels of anxiety and fear about the unpredictability of childbirth.

As related to family support, fear of childbearing is very prevalent in many countries worldwide, can be sensitive when a woman is destitute of family support, is unaware with the health care staff, and fears that the baby will be infected by the virus during pregnancy or delivery or that mother will be detached from her newborn after birth. The uncertain protection remaining vagueness about the protection of breastfeeding with COVID-19 and the opportunity that the newborn will be admitted to a neonatal intensive care unit (NICU) consider further causes of pressure. Regrettably, there are no uniform guidelines relating to the assessment and care of perinatal women during this pandemic, which leads to significant changeability in management (*Favre et al. 2020; Almeida, et al., 2020*).

In conclusion, the findings argument to an increased probability of negative psychological implications such as depression and anxiety among perinatal women throughout of pregnancy and postpartum period during the COVID-19 lockdown, thus documenting previous findings. Health care team should be cognizant that COVID-19, along with its isolation measures, may put an extra load on the psychological wellbeing of perinatal women (pregnancy and postpartum). Screening of negative psychological implications such as depression and anxiety should be measured in obstetrical settings throughout the current pandemic to safeguard the best perinatal and infant mental health. Correspondingly, the findings of *Moyer, et al., (2020)*. The current findings can be used to articulate psychological interventions to diminish negative psychological implications and improve psychological wellbeing among perinatal women. Similarly, the findings of *Liang, et al., (2020)*.

4. CONCLUSIONS

The current study concluded that COVID-19 has a substantial impact on perinatal women mental health negatively. In addition, the level of anxiety and depression during pregnancy throughout the COVID-19 pandemic suggestively increased, which should interest the care of health care providers at maternity and newborn hospitals and health center. The levels of stress and anxiety in perinatal women during the COVID-19 pandemic are moderate to high. Anxiety and distress tend to be higher in women with psychiatric treatment history, those in the first trimester of pregnancy, and young age women. Women who are pregnant, postpartum, miscarrying, or experiencing IPV are at particularly high risk for emerging negative psychological implications throughout the pandemic. Social support is a key protective factor, it can be improved through online contact such as secure messaging with clinicians, telehealth visits, online support groups.

5. RECOMMENDATIONS AND FURTHER RESEARCH

The current study recommended that appropriate measures should be taken to address negative psychological implications throughout the pandemic.

- There is a need to deliver perinatal women and women with psychological support throughout the widespread of disease to decrease the negative psychological effects of COVID-19.
- Healthcare experts should launch inclusive treatment plans for perinatal women who are highly susceptible population to avert mental trauma throughout the infectious disease outbreaks.
- Provide a virtual training group to decrease anxiety caused by coronavirus and perinatal concerns, as well as accenting the feeling of enjoying happiness.
- Providing data on increasing perinatal women awareness of coronavirus, its risk factors, and its impact on the fetus and baby is crucial.
- Obstetrician and psychiatric specialists can prevent negative consequences by recognising problems early and starting complete treatment plans for perinatal women in circumstances such as exciting stress, emergencies and natural disasters.
- Psychological well-being of perinatal women needs extra care particularly unemployed, and those with longer duration of marriage.

In the future, more consideration and alternative supportive measures such as tele-visits by midwives or perinatal organizations are essential.

- Advanced new research is needed to evaluate the impact of maternal anxiety and depression due to the pandemic on the perinatal and postnatal outcomes
- Long-term perinatal women and fetal consequences.

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