

# Psychological Aspects Of Health During Pregnancy, Before, During And After Covid-19 Pandemic: A Comparative Critical Review

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## Abstract

Pregnancy is a critical period in women`s lives, maternal psychological wellbeing during this period is a core component of health. Physiological changes during pregnancy affect women`s mental status and may lead to negative consequences, if not managed properly. Recently, Covid-19 pandemic resulted in additional consequences on pregnant women`s mental wellbeing along with psychological effects of the pregnancy itself. Therefore, it is crucial to prevent the negative consequences of the psychological changes during pregnancy to overcome it without complications. Current literature review explains the associated main psychological attributes among pregnant women before, during and after Covid-19 pandemic; including fear of childbirth and prenatal anxiety. Understanding the impact of Covid-19 pandemic on the psychological aspects during pregnancy will help healthcare professionals decide upon suitable strategies to assist pregnant women to overcome the negative consequences of the psychological difficulties.

**Key word:** psychological health, maternal mental wellbeing, Covid-19, pregnancy

## Introduction

Antenatal care is a holistic approach of care, which includes physical, psychological, social and spiritual dimensions of care (Mitchell, 2014; OBoyle et al., 2017; WHO, 2018). Pregnant women experience physiological and hormonal changes, which increase stress levels as compared with the previous state before pregnancy. High levels of stress affect the psychological wellbeing and leads to significant negative consequences (Alves et al., 2021; García-Leóna et al., 2019; Jin et al., 2020). Women`s psychological changes may range from

mild mood changes to severe states of depression (Nilsson, et al., 2018; WHO, 2018).

Specifically, fear of childbirth and prenatal anxiety interfere with women`s functioning and health during pregnancy and childbirth (Erkaya et al., 2017; Nilsson, et al., 2018). Many women with prenatal anxiety tend to develop postpartum depression and severe mental health problems with fetal complications and breastfeeding difficulties (Erkaya et al., 2017). Women who exhibit intense fear during pregnancy may become uncooperative during delivery and this fear leads to many psychological problems such as depression symptoms and

posttraumatic disorder (Nilsson, et al., 2018; Wijma and Wijma, 2017).

Additionally, childbirth needs high levels of self-control and cooperation of women in labor to succeed. The presence of high levels of fear of childbirth and prenatal anxiety affects women's ability to manage labor effectively and results in negative consequences and increased complications and risks (Dennis, et al., 2017; Khasholian et al., 2017; Nodoushan et al., 2020;Wijma and Wijma, 2017). Therefore, the fear of childbirth and prenatal anxiety need to be managed predominantly during pregnancy.

Recently, the global public health crisis of Covid-19 influenced mainly mental wellbeing in general population (Rajkumar, 2020). Moreover, Covid-19 pandemic resulted in additional consequences on pregnant women's mental wellbeing along with psychological effects of pregnancy (Qudsieha et al., 2022). During this pandemic, daily lifestyle and social activities were changed and pregnant women had uncertainties regarding their health and the health of the fetuses (Abu Sabbahet al., 2022). Regrettably, the negative mental health impact is doubled among pregnant women during the pandemic, and the huge negative consequences of Covid-19 pandemic on maternal mental wellbeing during pregnancy were obvious (Manchiaa et al., 2022).

Collectively, under these circumstances, awareness regarding maternal mental wellbeing increased worldwide after the Covid-19 pandemic, and global guidelines recommended paying pregnant women special attention during and after the crisis because they are a vulnerable group (Qudsieha et al., 2022; Larki et al., 2020). Scientists call for the need to conduct more research related to mental health among people who could suffer following the crisis such as pregnant women (Dymecka et al., 2021; Schoenmakers, 2022).

### **Prenatal anxiety during pregnancy**

Pregnancy and childbirth expose women to various physiological and psychological changes; they are stressful situations got women to be vulnerable to mental distresses such as anxiety. Specifically, anxiety during pregnancy is associated with women's concerns regarding their health and fetal wellbeing, their childbirth process, the associated medical treatments and their role after childbirth (Anniverno, et al., 2013).

Several fetal problems may have resulted from prenatal anxiety such as growth restriction, low birth weight and low Apgar scores, and women with prenatal anxiety could have breastfeeding difficulties with poor maternal and neonatal attachment (Anniverno, et al., 2013;Dennis,et al., 2017). Moreover, children whose mothers had a prenatal anxiety during pregnancy witness behavioral and emotional developmental problems (Dennis, et al., 2017).

Several scientific evidences found the significant effect of maternal prenatal stress and psychological impacts such as anxiety on offspring neurodevelopment (Asis-Cruz et al., 2022; Fitzgerald et al., 2020; Schoenmakers, 2022). Scientifically, maternal anxiety enhances cortisol secretion, which can cross placenta and stimulate in utero fetal cortisol and leads to poor fetal neurobehavioral outcomes (Asis-Cruz, 2022; Fitzgerald et al., 2020). A systematic review done by Adamson et al. (2018), using PRISMA guidelines for ten articles, found the significant association between antenatal maternal anxiety and fetal neurodevelopment.

Recently, using Magnetic Resonance imaging (MRI) investigation for brain scans from 119 healthy fetuses showed the significant negative association between maternal trait anxiety and the volume of the left hippocampus. Findings underscore the importance of prenatal mental health to secure fetal brain development (Asis-Cruz, 2022). Moreover, in another

longitudinal cohort study, Kristina et al. (2022) investigated 97 pregnant women who underwent fetal MRI visits to determine the association between specific fetal MRI-based brain measures until the age of 18 months and maternal anxiety. Kristina et al. (2022) found the significant effect of maternal prenatal psychological distress on fetal development and brain measures of infant cognitive outcome, socio-emotional scores and toddler development.

On the other hand, Field (2017), in her review stated that prenatal anxiety leads to an increased risk for caesarean section, prematurity and lower gestational age. Its effects continue to childhood and result in lower immunity, reduced gray matter of the brain, greater negative emotions of the infants and lower mental development levels. Pregnant women who have prenatal anxiety complain of worries associated with pregnancy and childbirth: headache, nervousness and panic attacks, fatigue, frustration, overwhelming, lack of concentration, appetite loss and difficult in sleeping. They, also, may have dizziness, excessive sweating, tachycardia, nausea, vomiting and preeclampsia (Anniverno, et al., 2013). Moreover, lots of pregnant women with prenatal anxiety have fear of childbirth and they tend to request an elective caesarean birth (Anniverno, et al., 2013). Women with high levels of prenatal anxiety tend to develop post-partum depression and severe mental health problems resulting from poor coping strategies and ineffective adaptation with pregnancy and childbirth changes (Anniverno, et al., 2013).

In a huge study, Dennis, et al. (2017) made a systematic review and meta-analysis, which included 102 studies incorporating approximately 221 thousand of pregnant women from 34 countries. Dennis, et al. (2017) found that the prevalence of anxiety symptoms was 18.2% in the first trimester, 19.1% in the second trimester and 24.6% in the third trimester with an overall rate of prenatal anxiety of 15.2%. They found that anxiety increases as pregnancy progresses.

On the other hand, Field (2017) in her review found the prevalence of prenatal anxiety ranged between 21% and 25%. However, Field (2017) stated that one of the limitations of her literature is the frequent use of anxiety measures that are not specific to pregnancy. Additionally, Silva et al. (2017) in Brazil found that anxiety was present in 26.8% of the pregnant women. It was more frequent in the third trimester with a rate of 42.9%. They found that prenatal anxiety increases among employed women and women who had unplanned pregnancy or had previous pregnancy complications.

During the COVID-19 pandemic, pregnant women suffered from great psychological problems following Corona virus 2019 outbreak. Schoenmakers (2022) stated that anxiety rate increased considerably during the pandemic. The researcher related this to the increased in interpersonal stress and increased exposure to domestic violence. Several systematic reviews investigated anxiety rates among pregnant women during Covid-19 pandemic. Moreover, Yan et al. (2020), reviewed 23 studies related to the prenatal and postnatal periods and reported that the prevalence of anxiety was 37%.

During Covid-19 pandemic, psychologists encouraged their patients to always have faith and hope to overcome their mental problems. Pregnant women as other populations became worried about their futures, but hope and faith could improve their state effectively and make better mental health (Rathakrishnan et al., 2022). Therefore, several recommendations highlighted the need to conduct more studies related mental health among people who could suffer following COVID-19 pandemic (Rathakrishnan et al., 2022; Schoenmakers, 2022).

There are several factors associated with prenatal anxiety. They include lack of support, intimate partner violence, personality, stressful life events, history of mental problems, childhood

abuse, unplanned or high risk pregnancy or previous pregnancy loss or abortions (Bayrampour, et al., 2018; Silva, et al., 2017). In Ethiopia, Kassaw and Pandey (2020) conducted a cross sectional study with 178 perinatal service users. Nearly, one-third of the respondents had general anxiety disorders with a prevalence of 32.2%. The study aimed to determine the magnitude and associated factors of anxiety. Logistic regression analysis revealed that living in rural areas, primary levels of education, poor social support and primiparity were variables significantly associated with general anxiety disorder (Kassaw and Pandey, 2020).

In Jordan, Qudsieha et al. (2022) conducted 877 pregnant women in a web based cross sectional study. They found that Covid-19 pandemic resulted in a negative consequences on women's psychosocial aspects of health. They reported that 60.1% of the pregnant women had fear of catching COVID-19 virus, 93.3% reported they had psychological stress, and 29.9% reported they had at least one form of domestic violence.

Several studies proved the effectiveness of various interventions and management strategies to decrease anxiety level during pregnancy. Specifically in Egypt, it was found that the educational programs and cognitive behavioral therapies were effective in reducing anxiety levels (Hassan, et al., 2020). In addition, Ravesteyn, et al. (2017), identified in their systematic review all of the interventions that were effective in managing psychological distresses during pregnancy. Cognitive behavioral therapy, mindfulness, interpersonal psychotherapy, acupuncture, massage and the exercises were found to be effective in anxiety management.

The literature witnessed limited studies regarding the preventive measures of prenatal anxiety. It was recommended to investigate the effective strategies which decrease anxiety levels and improve maternal prenatal psychological wellbeing (Al-Farajat, 2020; Dennis, et al., 2017). Consequently, this highlighted the need to assess

mental wellbeing during pregnancy, and to identify the preventive measures that reduce prenatal mental distresses and its negative consequences.

### **Fear of childbirth during pregnancy**

Fear of childbirth is a common health problem during pregnancy and was considered a main reason for caesarean section request (Demšar et al., 2017; Nilsson, et al., 2018). In a systematic review, Striebich et al. (2018) found the presence of a problem regarding the differences in fear of childbirth standard definitions. Fear of childbirth was used as a general label for several types of anxiety and fears. Consequently, it is essential to determine an accurate definition for fear of childbirth and distinguish it from anxiety.

Generally, several studies showed the significant negative psychological consequences for fear of childbirth; women who fear childbirth tend to have depression and anxiety during pregnancy (Erkaya et al., 2017; Rondung, et al., 2016; Molgora et al., 2018). Additionally, fear of childbirth is highly correlated with poor maternal fetal attachment (Golmakani et al., 2020). Moreover, according to Wijma and Wijma (2017), fear of childbirth is associated with several complications, which interfere with the daily activities such as the deterioration in the personal, occupational and social life of pregnant women. Women who exhibit intense fear during pregnancy may suffer from severe anxiety and they become uncooperative during delivery. Demšar et al. (2017) investigated the prevalence and risk factors for fear of childbirth; 75% of the participants reported low to moderate levels of fear of childbirth, while 25% reported high or very high fear of childbirth. Erkaya et al. (2017) investigated fear of childbirth and anxiety levels among 184 Turkish pregnant women using Beck anxiety inventory and Wijma delivery expectancy questionnaire; 40.8% of women had severe levels of anxiety and 48.9% had severe level of fear of childbirth.

In Kenya, 29.5% of the pregnant women had low levels of fear of childbirth, 40.4% had moderate level and 30.1% had high and severe levels of fear of childbirth (Onchongaa et al., 2020). Furthermore, at the same country, Onchongaa (2021) found that 58.6% of the pregnant women and 45.7% of their spouses reported high level of fear of childbirth using the visual analog scale for fear of childbirth.

In Ireland, a cohort study investigated 389 pregnant women regarding fear of childbirth using the Wijma Delivery Experience questionnaire. O'Connell et al. (2019) classified participants' scores into severe  $\geq 85$ , moderate 6684 and low 0-65. Study results showed that 4.6% of women had severe fear of childbirth, 26.5% of them had moderate level and 68.9% had low levels of fear of childbirth (O'Connell et al., 2019).

On the other hand, Khosravia et al. (2022) surveyed 179 primiparous pregnant women in Iran for fear of childbirth using Harman's childbirth attitudes questionnaire. Results showed 71.5% had fear of childbirth, 72.6% did not participate in pregnancy courses, 88.3% obtained information about pregnancy and childbirth from resources such as books, magazines, and the internet with the most frequently used resource was the internet, 56.4% of women preferred normal delivery and 43.6% preferred caesarean birth (Khosravia et al., 2022).

Several reasons are associated with the increased level of fear of childbirth during pregnancy. Demšar et al. (2017) found that having an episiotomy and fear of pain and being uncontrolled during childbirth were the main reasons for fear of childbirth. Klabbers, et al. (2016) found that fear of childbirth is related to prolonged or abnormal labor, the associated medical interventions and traumatic delivery, pain and lack of control during delivery. The two studies reflected the effect of previous experience of pregnant women on their levels of fear of childbirth.

Specifically, Denker et al. (2019) selected 21 studies in their systematic review about the causes and outcomes of fear of childbirth. Study results showed stress, anxiety, depression and lack of social support are factors associated with fear during pregnancy. Primiparous and multiparous women in the study were similar in their levels of fear of childbirth, and authors stated that women who experienced complications or have a previous negative or prolonged labor should have a psychiatric referral (Denker et al., 2019).

Moreover, Lebni et al. (2021) conducted a qualitative study with 15 pregnant women in Iran to explore causes of fear of childbirth using purposive sampling technique. They found that fear of childbirth consisted of fears related to child health, childbirth process, inappropriate medical staff performance, hospital environment and postpartum fears. In addition to that, Lebni et al. (2021) found that management strategies to reduce fear of childbirth are choosing appropriate medical centers, increasing information on childbirth, avoiding stressful sources, improving self-care, getting prepared for delivery and resorting to spirituality (Lebni et al., 2021).

In Jordan, women expected a negative childbirth experience with a frightening, very long, too difficult and painful childbirth, they revealed the significant effect of surrounding social network and negative experiences of other women on their decision for elective caesarean birth (Hatamleh et al., 2019). Moreover, Hatamleh et al. (2019) found that fear of vaginal birth, the need for humanizing childbirth, concerns about sexual life and personal reasons with decision-making process were the main reasons for requesting elective caesarean delivery without medical indications. Al-Farajat (2020) emphasized the importance of childbirth preparation in changing the negative childbirth expectations.

During Covid-19 pandemic, pregnant women were exposed to several stressors, multiple sources of fears associated with the

disease itself, fears of childbirth, and the uncertainties related to receiving health care. Women during the pandemic period witnessed higher levels of stress (Abu-Sabbah et al, 2022; Dymecka et al., 2021). In a cross-sectional correlational study, with a recruited sample of 262 Polish pregnant women, Dymecka et al. (2021) investigated fear of COVID-19, stress and fear of childbirth. They found that perceived stress was the predictor for fear of childbirth, and fear of Covid-19 was the mediator in the relationship between perceived stress and fear of childbirth.

In a huge study, 1039 Chinese nulliparous pregnant women completed a survey regarding the predictors for fear of childbirth by using the 16 items-attitude scale for childbirth. Results showed that nulliparous women had moderate level of fear of childbirth. Linear regression analysis revealed that the predictors of fear of childbirth are low self-rated health status, higher educational levels, lower levels of self-efficacy and the use of pregnancy-related Smartphone applications (Qiu et al., 2020).

Essentially, paying the attention toward investigating the preventive measures and modifying the affecting factors of fear of childbirth is important (Erkaya et al., 2017). In a meta-synthesis review regarding women's experiences of fear of childbirth, the importance of providing support for women with fear of childbirth is highly evident to meet women's existential issues about being at the point of no return (Wigert et al., 2020).

Consistently, in a systematic review consisting of 18 studies, Aguilera-Martín et al. (2020) investigated the interventions that reduce fear of childbirth. They found social support and prenatal education have important role in the effectiveness of the interventions. Another systematic review consisting of 19 articles, Striebich et al. (2018) examined the effectiveness of different interventions to relieve fear of childbirth; both cognitive therapy sessions and theory-based group psycho-education were effective in decreasing fear of childbirth.

Moreover, in a systematic review and meta-analysis of clinical trials of 10 studies, Hosseini et al. (2018) found that the educational interventions reduce fear of childbirth with an additionally double effect of hypnosis-based intervention.

In a meta-synthesis review, O'Connell et al. (2021) selected seven qualitative Scandinavian studies related to pregnant women's experiences of fear of childbirth.

O'Connell et al. (2021) showed that the ownership of childbirth was the main overarching and obvious theme in the studies. In addition, most of the studies showed that pregnant women have feelings of facing fear, being empowered and managing fears with sense of security (O'Connell et al., 2021).

### Summary

This extensive critical review presented the related literature for prenatal anxiety and fear of childbirth during pregnancy before, during and after the pandemic of Covid-19. The review presented prenatal anxiety and fear of childbirth as predominant indicators, which affect childbirth outcomes. The negative emotions regarding pregnancy and childbirth increase women's prenatal anxiety and fear of childbirth and lead to negative consequences and complications during and after childbirth. Covid-19 pandemic affected maternal mental wellbeing during pregnancy, therefore, health care professionals are in need for preventable and manageable strategies that enhance women's mental wellbeing and adaptation after Covid-19. Globally, more investigations are required to investigate Covid-19 impact's on prenatal anxiety, fear of childbirth and resilience during pregnancy after the pandemic era.

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