



# COVID-19-related anxiety and concerns expressed by pregnant and postpartum women—a survey among obstetricians

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## Abstract

This paper from India describes anxieties that pregnant and postpartum women reported to obstetricians during the COVID-19 pandemic. Of the 118 obstetricians who responded to an online survey, most had been contacted for concerns about hospital visits (72.65%), methods of protection (60.17%), the safety of the infant (52.14%), anxieties related to social media messages (40.68%) and contracting the infection (39.83%). Obstetricians felt the need for resources such as videos, websites and counselling skills to handle COVID-related anxiety among perinatal women.

**Keywords** COVID19 · Anxiety · Pregnancy · Postpartum · Women · India · Perinatal

## Introduction

Pandemics, including COVID-19, have been shown to have major effects on mental health resulting in anxiety, depression and high stress levels (Wang et al., 2020). Pregnant mothers are a vulnerable population and may have several concerns and anxieties about the impact of COVID-19 infection on pregnancy and the foetus (Schwartz and Graham, 2020). There have been conflicting results about morbidity and mortality in pregnant women related to COVID-19 infection, including the possibility of vertical transmission (Alzamora et al., 2020; Di Mascio et al., 2020). Infectious epidemics have been shown to cause anxiety in pregnant women about several aspects of childbirth including disrupted expectations related to prenatal and postnatal care (Brooks et al., 2020). Research

in this area is just emerging. Among 71 pregnant mothers in Ireland, 36 (50.7%) reported excessive worrying about their health during the COVID-19 pandemic (Corbett et al., 2020).

Studies done during earlier pandemics of the severe acute respiratory syndrome (SARS) and Zika virus have highlighted the need to sensitise all health care professionals about perinatal mental health (Dos Santos Oliveira et al., 2016; Ng et al., 2004). Pregnant and postpartum women are likely to first discuss their anxieties about COVID-19 with their obstetricians who may hence need to be first responders for mental health support. This is challenging when face to face contact with women is going to be limited.

We conducted an online survey among obstetricians to understand the nature of concerns about COVID-19 that pregnant and postpartum women expressed to them. We also asked about methods they used to handle psychological distress and their need for resources.

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## Materials and methods

Based on available literature regarding common concerns and anxieties among pregnant women in previous and including COVID-19, domains were shortlisted and items representing each domain were generated. Consensus regarding the items was established among all authors and experts and the final survey had 32 items. Part 1 had details about obstetricians such as gender, years of experience and number of deliveries

conducted during the pandemic. It also included trimester wise distribution of women who had contacted the obstetricians for COVID-19-related concerns and anxiety. The second part of the survey was divided into two sections.

1. The first had 12 items related to nature of concerns expressed, including symptoms, protection, testing for COVID-19, the effect of infection on pregnancy and foetus, antenatal visits, safe delivery, the safety of the infant, breastfeeding, social distancing, media messages and concerns related to work.
2. The second had 10 items on anxiety and psychological distress including anxiety about the infection, infection control procedures not being followed by family members, excessive reading and receiving social media messages, boredom, distress about missing work, missing out on rituals like baby showers and sleep problems. We also enquired how often family members and husbands contacted the obstetrician about the patient's anxiety and two questions were related to methods obstetricians had employed to allay anxiety in these women and what aids or skills they would need to help women better during this period.

Each question was scored by respondents on a Likert scale of 'Very often', 'Often', 'Occasionally' and 'Not at all'. Distribution of responses is presented as frequencies and percentages.

An online survey using the platform Survey Monkey (<https://www.surveymonkey.com/>) was created. The weblink was sent out to all members of an obstetrics society in South India using a purposive method of sampling. Participants were assured of complete anonymity. Online consent was sought. The survey reached approximately 300 obstetricians during the periods April 5, to May 5, 2020, and 118 responded (40%). The study was approved by the institutional ethics committee of the National Institute of Mental Health and Neurosciences, Bangalore, India.

## Results

Among the 118 obstetricians who responded, 106 (89.83%) were women, with 102 (87%) having more than 10 years of experience; 54 (45.76%) had conducted deliveries for more than ten women during this pandemic. Nearly 40% reported having been contacted by more than ten women because of anxiety related to COVID-19 and 14.4% reported that pregnant women under their care had been tested for the virus.

Almost 44% of the obstetricians reported that more than half of the calls received for COVID anxiety were from women in their third trimester and lesser than 25% from women in the first and second trimester. Also, 23 (19.66%) obstetricians responded that family members and husbands who also called to discuss anxieties related to COVID-19.

The most frequent concerns reported to obstetricians were related to hospital visits for antenatal check-ups and ultrasound scans, protecting themselves from infection, social media messages, infant health after delivery and breastfeeding (Table 1).

The most common anxieties and distress reported were related to worrying social media messages, fear about contracting the infection, social isolation, family members not following infection control and missing out on childbirth-related rituals (Table 2).

Obstetricians mentioned using the following methods to handle COVID-19-related anxiety among pregnant and postpartum women—104 (88.89%) provided reassurance, 94 (80.34%) educated women about COVID-19, 47 (40.17%) recommended meditation and relaxation techniques, 29 (24.79%), sent reading material and website links, 15 (12.82%) used distraction techniques and 2 (1.71%) prescribed anti-anxiety medications.

Obstetricians (N=117) mentioned the need for several resources to help them manage anxieties among mothers. Nearly 75% mentioned the need for training in simple counselling techniques, 58 (49.57%) requested access to a helpline for mothers, 56(47.96%) felt videos for mothers regarding managing anxiety would be useful, 38 (32.48%) felt easy access to mental professionals would help and 33(28.21%) requested for simple guidance notes.

## Discussion and conclusions

This online survey among obstetricians from India describes the nature and frequency of concerns, anxiety and psychological distress due to COVID-19 that pregnant and postpartum women reported to them.

The lockdown has created difficulties for pregnant women to travel to hospitals and to get their scans done on time and caused concerns related to acquiring the infection at hospitals. It has also affected the financial and occupational status of couples which adds to the stress. Obstetricians reported that women contacting them about work-related concerns were a sizable number (35%) and a quarter of them expressed feeling distressed due to missing work.

Rates of pregnancy-related anxiety even in the non-COVID times have been high in low-income countries. Limited studies done during the current pandemic reveal anxiety rates during pregnancy in the range of 63–68% (Corbett et al., 2020; Lebel et al., 2020; Saccone et al., 2020). It is known that pregnancy-related anxiety escalates in the third trimester and our results reflect the same. Majority of the women who contacted obstetricians for COVID-19-related anxiety in the survey were in the third trimester 82 (69.5%).

Our findings reflect previous research on the role of non-judicious use of social media amplifying anxiety further increasing the perceived risk of infection (Holmes et al., 2020).

**Table 1** Frequency of various concerns related to COVID-19 reported to obstetricians

Items (N = 118), concerns about	Often or very often, N (%)	Occasionally, N (%)
Hospital visits for antenatal visits and scans	85 (72.65%)	29 (24.79%)
Methods for protection from COVID-19	71 (60.17%)	37 (31.36%)
Social media messages	61 (52.14%)	34 (28.21%)
Safety of the infant from infection after delivery	61 (52.14%)	38 (32.48%)
Effect of COVID-19 on the unborn baby	54 (45.76%)	40 (33.9%)
Effect of COVID-19 on pregnancy outcome	53 (44.92%)	44 (37.29%)
Safety of breast feeding	52 (44.44%)	33 (28.21%)
Need for caesarean section to decrease chances of COVID-19 infection	43 (34.75%)	53 (45.3%)
Having to be on leave from work due to restrictions	40 (34.19%)	39 (33.33%)
Stress related to social distancing or inability to follow social distancing due to inadequate living spaces	39 (33.33%)	38 (32.48%)
Symptoms of COVID-19 infection	16 (13.55%)	64 (54.24%)
Getting tested for COVID-19	15 (12.71%)	33 (27.97%)

Interestingly, there were also culture-specific concerns. In India, pregnant women usually have an important ritual called *Seemantha* (baby shower) in the 7th month of pregnancy for the wellbeing of the mother and unborn baby. Obstetricians reported that mothers were distressed missing out on childbirth-related rituals because of social distancing.

Studies done in Canada, Ireland and Italy among pregnant women in relation to COVID 19 have reported similar results. The Canadian study revealed high rates of depression (37%), anxiety (59%) and pregnancy-specific anxiety (67%). The most prevalent COVID-19-related worries were similar to those found in our study (Lebel et al., 2020). Pregnant women in Ireland reported excessive worries regarding older relatives and unborn baby (Corbett et al., 2020) while Italian pregnant women reported high rates of anxiety regarding vertical transmission (Saccone et al., 2020).

Nearly 20% of obstetricians in our survey also reported getting calls from partners and family members with concerns and anxiety. While the obstetricians surveyed reported using several methods to handle the anxieties and distress, they also

expressed the need for training and resources to handle these mental health issues.

The response rate of our survey was nearly 40% which might be an acceptable response rate for online surveys among medical practitioners especially at a difficult time like this. However, the limitations of the study include the small sample of obstetricians because of which generalisation may not be possible and a possibility of recall bias. Also, this survey was done during the lockdown and in the early stages of the pandemic. Concerns may change as the infection rates in the community become higher.

The findings of our study are important for two reasons. First, COVID-19-related anxiety during pregnancy needs to be addressed as anxiety may adversely influence pregnancy and foetal outcomes (Khalesi and Bokaie, 2018). Second, there is an urgent need to train obstetricians and midwives in managing psychological distress during the ongoing pandemic. During the SARS epidemic in Hong Kong, it was seen that midwives played a crucial role in providing care, health education and counselling to help pregnant women during and

**Table 2** Frequency of anxiety and psychological distress COVID-19 reported to obstetricians

Items (N = 118), anxiety and psychological distress	Often/very often, N (%)	Occasionally, N (%)
Anxiety related to excessive and worrying social media messages (both reading and receiving messages)	48 (40.68%)	49 (41.53%)
Excessive anxiety and worry about contracting the infection	47 (39.83%)	57 (48.31%)
Distress due to boredom and feeling isolated	33 (27.97%)	54 (45.76%)
Feeling distressed due to missing work	28 (23.73%)	41 (34.75%)
Distress due to lack of childbirth rituals (like baby showers) because of social distancing	27 (23.08%)	55 (47.01%)
Family members not following infection control procedures	24 (20.34%)	43 (36.44%)
Lack of sleep because of anxiety	23 (19.66%)	54 (46.15%)

after the crisis (Ng et al., 2004). Early identification of mental health issues in perinatal women is therefore essential for obstetric providers to liaise with mental health specialists to provide appropriate interventions.

**Authors' contributions** All authors contributed to the paper in accordance with guidelines.

**Data availability** We declare that data is transparent.

## Compliance with ethical standards

**Conflict of interest** The authors declare that they have no conflict of interest.

**Ethics approval** This study was approved by the institutional ethics review committee of the National Institute of Mental Health and Neurosciences (NIMHANS).

**Consent to participate** Informed consent was obtained from all individual participants included in the study.

**Consent for publication** The participant has consented to the submission.

**Code availability** Not applicable.

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