

Original Research Article

Impact of coronavirus on pregnant females in India: an observational study

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ABSTRACT

Background: Coronavirus (COVID-19) has emerged as a rampant pandemic and the entire world is struggling against it. The entire nations are trying to device measure like national lockdowns, diverting resources towards fighting coronavirus, extensive media coverage, closing of elective services in hospitals. All this has influences the masses to a deep level. Coronavirus not only is morbid for the sick, but also the healthy pregnant females seeking health care and impacted them more mentally than physically.

Methods: In this study 103 pregnant females from the entire nation of India were made to answer a well thought and made questionnaire which aimed at assessing the mental state and impact of coronavirus on the pregnant females.

Results: Majority of the females answered that they felt anxious and were undergoing stress due to the coronavirus. They fear impending doom for the child and also are struggling a lot to seek apt healthcare for themselves and their children because of the ongoing pandemic.

Conclusions: Coronavirus has not only affected people who are directly affected with the virus, but also who are still not affected but are mentally stressed because of it. National lockdown and alteration in the healthcare services are also stress- inducing for the pregnant females.

Keywords: Coronavirus, COVID-19, Pregnant females, Impact of corona

INTRODUCTION

India is a developing nation with a fertility rate of 2.222 (2018 data). This has fallen from a fertility rate of 5.906 in 1960.¹ Though the fertility rates have fallen, India still has a high fertility rate and majority of our population is in the reproductive age groups. That is, 47.86% of the Indian population lies in the age group of 15-44.²

In November 2019, a virus originated in the Hubei province of China named the coronavirus or SARS-CoV-2, later termed COVID-19.³ This virus belongs to the Corona group of viruses and spread like fire from China to involve almost every part of the world. The major hotspots were the U.S., Europe, Asia and the entire world to certain extents.

The COVID-19 spread rapidly from one country to the entire world in about 2-3 months, causing numerous cases and fast spreading and debilitating illness and mortality. The world had not seen such a pandemic for a long time since after 2002, SARS-CoV Infection.

To control the spread of the infection, various measures are taken in the entire world including social distancing, lockdowns, shifting the resources and focussing more on the pandemic named COVID-19. India declared a nationwide lockdown on 24th march 2020 and which is currently planned to be till 3rd may 2020.⁴ Before the nationwide lockdown, when the pandemic had hit the news, health facilities were affected from February 2020 onwards in India. In many hospitals all over the nation, out patients were limited and only a few number of

patients were being taken up for consultation. The patient segregation was done based on the urgency of the disease and state of the patients. Also, many private hospitals in India were self-shut closed after the news and hype of the coronavirus. Government hospitals had to take the load of the entire nation due to non- functioning of the private sector and were forced to close their elective OPDs and elective surgeries. This ensured that only emergency patients would be dealt with and routine patients could wait.⁵

Due to this shift of resources and manpower towards the pandemic, pregnant women who are bearing children and carry lives in their wombs are suffering and hold an uncertainty for the childbirth and the outcome of the pregnancy. They suffer mental tension and are sometimes deprived of the health facilities which they could exercise in case there was no such pandemic.

Thus in this study authors tried to assess the anxiety, tension faced by the pregnant females in India, lack of proper health facilities for pregnant females in the pandemic scenario.

METHODS

A thorough questionnaire, containing 15 well thought and formed questions was prepared. The questions aimed at analysing the mental state of pregnant patients the facilities they are receiving.

Subjects

This survey study was conducted online and the patients for the observational study were pregnant females all over India. The questionnaire containing the study questions was made available online and on various social media platforms. Any female who was pregnant, irrespective of gestational age, locality, ethnicity, economical class were included. The females filling this form belonged to all economical classes and were located anywhere in India. They were asked to fill the form and answer questions according to what they feel and what they were undergoing. No physical or institutional resources were used in this study.

Females who were not pregnant were asked not to fill out the questionnaire form.

The study was carried out from February 2020 to April 2020, the time when India was under a lockdown and was expecting the worst, like the U.S. and Europe. Due to the inability of patients to easily access health care facilities, the mode of study was kept majorly online.

A total of 103 patients were included in this study. The identity of the patients was not disclosed and full anonymity was given. The patients filled these questionnaires in the comfort of their homes and in

privacy. They were asked to answer without any bias and whatever they felt was true for them.

Questionnaire

The questionnaire contained 15 questions with a yes or no type of answer (Table 1).

Table 1: The Questionnaire of the study containing questions to be answered by pregnant females in the study.

| Q. no. | Questions of the questionnaire |
|--------|--|
| 1. | Are you pregnant? |
| 2. | Which trimester are you in? |
| 3. | Have you been consulting an obstetrician since the conception? Before coronavirus? |
| 4. | Do you face difficulty in seeking healthcare since the coronavirus pandemic outbreak? |
| 5. | Have you been able to visit your doctor for all your antenatal visits? |
| 6. | Have you been able to get your blood tests done easily? |
| 7. | Have you been able to get your scheduled ultrasound get done easily? |
| 8. | Do the doctors you try to contact for your check-up seem to be caring less for the non-corona affected patients at present? |
| 9. | Do you feel anxiety being pregnant at the time of pandemic like coronavirus? |
| 10. | Do you feel you are not given the amount of care and attention in hospitals which you could get if there was no coronavirus pandemic? |
| 11. | Do you feel anxious that something bad would happen to the baby or you due to coronavirus? |
| 12. | Do you feel that the hospitals are focussing more on coronavirus patients than normal pregnant patients? |
| 13. | Are you overall satisfied about the health care services at the present time during the coronavirus outbreak? |
| 14. | If given a chance, would you like to have more attention for your child and pregnancy? |
| 15. | Kindly answer the questions as per the GAD-7 assessment tool and calculate your score. (Table no.2 was a part of the question number 15 of questionnaire.) |

The questions aimed at asking the pregnant females their mental state in a pandemic like coronavirus and difficulties, if any faced by them in seeking healthcare for themselves. The last question assessed the level of anxiety in pregnant females (if any) and was calculated using the standard GAD-7 (generalised anxiety disorder assessment-7), (Table 2).⁶

Table 2: The generalised anxiety disorder assessment -7 used to calculate the anxiety level of pregnant females as question number 15 of the questionnaire used.

| Over the last 2 weeks, how often have you been bothered by the following problems? | Not at all | Several days | More than half the days | Nearly everyday |
|--|------------|--------------|-------------------------|-----------------|
| Feeling nervous, anxious or on the edge | 0 | 1 | 2 | 3 |
| Not being able to stop or control worrying | 0 | 1 | 2 | 3 |
| Worrying too much about different things | 0 | 1 | 2 | 3 |
| Trouble relaxing | 0 | 1 | 2 | 3 |
| Being so restless that it is hard to sit still | 0 | 1 | 2 | 3 |
| Becoming easily annoyed or irritable | 0 | 1 | 2 | 3 |
| Feeling afraid as if something awful might happen | 0 | 1 | 2 | 3 |

Table 3: The scoring interpretation of the score obtained from GAD-7 assessment (table no.1) determining the level of anxiety in pregnant females.

| Score | Level of anxiety |
|-------|------------------|
| <5 | No anxiety |
| 5-10 | Mild anxiety |
| 10-15 | Moderate anxiety |
| >15 | Severe anxiety |

The GAD-7 assessment score includes 7 questions with 4 answers to each question (Table 3). The person taking the assessment answers each question and then calculates their score.^{11,12}

It is a standard and easy assessment of mental health of patients and is used widely by healthcare providers.

It was developed keeping in mind to analyse the mental status or pregnant females and also to see if all the needs of the pregnant patients is met in the ongoing pandemic.

RESULTS

The online questionnaire was made using the Google documents. The interpretation of the responses was converted into charts and graphs using online statistics calculators.

Total 103 women answered the questionnaires out of which 103 were pregnant.

There was equal distribution of the 103 in each trimester with 31.1% being in 1st and 3rd trimester each, and 37.9% women in the second trimester.

Out of the 103 women, 86.4% women had been consulting an obstetrician before the coronavirus outbreak and were under thorough follow-up. This helps us in knowing that prior the coronavirus outbreak, the females undergoing this test were vigilant about their health and also about the proper care needed in pregnancy. Such females who want to seek proper care

for themselves and their children can actually tell the difference in situation between pre-corona and during coronavirus era.

91.3% women said that they faced difficulty in seeking health care for themselves since the coronavirus pandemic outbreak.

This is a very huge number. When such a large number of people feel they are facing a difficulty in seeking healthcare, it might be true for the entire nation's pregnant females. Atleast for the majority of them.

64.1% women said they were not able to visit their doctors for their scheduled antenatal visits. This tells us that females are missing their appointments (intentionally or circumstantially). Either way, this can have a negative impact on the pregnancy of the female and can lead to undesirable outcomes for the mother and the baby.

When asked about the blood tests and antenatal USG scan, there was a mixed response. 50.5% women said they had no difficulty in getting blood tests done whereas 53.4% women said they had difficulty in getting their USG scan done.

This could be due to the closure of the elective services and also private setups. So the pregnant females have nowhere to go to get their ultrasound scans done.

When asked about the concern showed by doctors towards the non- corona patients at present, 31.1% females felt that non- corona affected patients are neglected in the current pandemic scenario. 38.8% female feel that they are not being neglected. And 30.1% females were not sure.

Even when a slightest amount of people feel neglected, we may be failing as health care providers. The main aim of health care providers and policy makers should be to inculcate a sense of confidence and safety in its patients and citizens.

92.2% women said they felt anxious being pregnant at the time of a pandemic like coronavirus. Pregnant females are undergoing high levels of stress being pregnant at this time of a pandemic.

82.5% females feel they are not given the amount of care and attention in hospitals which they could get if there was no pandemic.

75.5% females felt they were anxious that something bad would happen to the baby.

73.8% females felt that the hospitals were focussing more on corona patients than normal pregnant females.

51% females said they were overall satisfied with the health care services at present whereas 49% females said they were not satisfied with the health care services available at present.

87.3% females feel that if they were given a chance to change the scenario, they would like to have more attention for their unborn children.

According to the GAD-7 anxiety score, 58.3% females had moderate anxiety (score of 10-15), 19.4% females had severe anxiety (score >15), 17.5% females had mild anxiety (score 5-10), and 4.8% females had no anxiety (score <5).

This tells us that majority of the pregnant females are under stress. Any amount of stress is harmful for the body, especially when you are pregnant.

It could have hormonal imbalances, raised blood pressures, and other harmful impacts on the pregnancy.⁸

Table 4: The responses of pregnant females to some questions.

| Questions | Yes | No | May be |
|--|--------|--------|--------|
| Q3. Have you been consulting an obstetrician since the conception? Before coronavirus? | 86.40% | 13.60% | |
| Q4. Do you face difficulty in seeking healthcare since the coronavirus pandemic outbreak? | 91.30% | 8.70% | |
| Q5. Have you been able to visit your doctor for all scheduled antenatal visits? | 35.90% | 64.10% | |
| Q6. Have you been able to get your blood tests done easily? | 50.50% | 49.50% | |
| Q7. have you been able to get your scheduled ultrasound done easily? | 46.60% | 53.40% | |
| Q8. do the doctors you try to contact for your checkup seem to be caring less for non corona patients | 31.10% | 38.80% | 30.10% |
| Q9. Do you feel anxiety being pregnant at the time of a pandemic like coronavirus? | 92.20% | 7.80% | |
| Q10. Do you feel you are not given the amount of care and attention in hospital if there was no corona | 82.50% | 17.50% | |
| Q11. Do you feel anxious that something bad would happen to the baby due to coronavirus? | 76.70% | 24.30% | |
| Q12. Do you feel hospitals are focussing more on coronavirus patients than normal patients? | 73.80% | 26.20% | |
| Q13. Are you overall satisfied about the health care services at the present time during corona virus? | 51% | 49% | |
| Q14. If given a chance to change, would you like to have more attention for your child and pregnancy? | 87.30% | 12.70% | |

Table 5: The score analysis of pregnant females after taking the GAD-7 assessment test (Q.15 of the questionnaire).

| GAD-7 assessment score | No. of patients (%) |
|--------------------------|---------------------|
| <5 no anxiety | 4.80 |
| 5-10 (mild anxiety) | 17.50 |
| 10-15 (moderate anxiety) | 58.30 |
| >15 (severe anxiety) | 19.40 |

DISCUSSION

Generally, pregnant women do not appear to be more likely to be seriously unwell than other healthy adults if

they develop coronavirus.⁹ But the situation in a country like India is so chaotic that pregnant females though do not have higher risk of contacting the coronavirus, are suffering because of it. The main impact of the coronavirus on healthy pregnant females is more psychological and mental, causing them to develop more anxiety than usual. They are facing difficulty in utilising health care facilities and in contacting their obstetricians for routine health check-ups due to the nationwide lockdown and protocols. Some women are missing their routine antenatal visits as a result of fear of contacting the coronavirus.

According to our study, the healthy pregnant females feel that they feel unsafe being pregnant at a time like this

pandemic outbreak. This has a high psychological impact on pregnant females as mental stress could lead to other co-morbidities in the female and the outcome of the pregnancy may not be perfect.

Though India is doing great by practising lockdowns, practising social distancing, and focussing on battling the coronavirus, it may be lacking in acknowledging the fact that there are healthy pregnant females in the population who are facing difficulty in coping with the situation.¹⁰

The nation could develop certain helplines, telephonic counselling and comforting of the pregnant females. We could open dedicated centres for blood investigations and ultrasonography, at affordable prices. This would ensure that the healthy pregnant females feel safe and we as nation can take care of the entire nation as a whole and not just focus on the problem in hand but also, all the vulnerable groups, especially the pregnant females.

The limitation of this study was that the data in this study was a pooled data from all over India and there was no locational segregation of economical segregation. Also, the level of anxiety was not taken into consideration because of the fact that a large number of the females in our country are not well educated could not fill complex questionnaires. So the questionnaire was kept simple with only yes/no type of questions, making it easy for all to fill.

In this study, details of the deficit in the health care facilities could also not be done because of the before mentioned reason.

This is a pioneer study in assessing the condition of pregnant females in India and opens scope for many more and detailed studies in the future.

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