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COVID 19 IMPACT ON PREGNANT AND NURSING WOMEN

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ABSTRACT

Background: COVID 19 pandemic is a widespread disease nowadays, which developed a huge impact in the mindset of people that for an infected mother it's better to get caesarean than normal delivery. According to many researches pregnant women are forced for caesarean 1 to 2 weeks before the predicted date of birth of child. **Methods:** Collected and reviewed previously published articles about COVID 19 in obstetrics. **Observation:** Previously the transmission of COVID 19 from mother to child where not observed but in recent researches it found that there is a chance of vertical transmission from mother to child which must be taken into consideration. The mental status of infected pregnant women was found to be unstable due to the fear and anxiety about the pandemic disease which is widespread. It was observed that patient must be self-isolated to prevent from infections. Miscarriage during first trimester can be prevented by consulting with the doctor at regular times.

KEYWORDS: COVID 19, pregnancy, obstetrics, vertical transmission.

INTRODUCTION

Corona viruses are a group of viruses which can cause illness in humans. COVID 19 is an infectious disease which explored recently after the outbreak in Wuhan, China on December 2019. Since the epidemic occurred in 2019, it was named COVID 19. It is now a pandemic all over the world. By August 16, 2020 the total cases reported in India became 25, 94,112, deaths reported was about 50,122 and recovered cases numbered 18, 62,937. The disease

spreads from person to person through small droplets which expel when an infected person speaks or coughs. The most common symptoms are fever, dry cough, tiredness, nasal congestion, and headache. There no added symptoms in case of pregnant ladies.[1]

There occurred a large confusion in the case of pregnant ladies and nursing mothers infected with COVID 19 whether the disease can transmit through placenta or the breast milk. During pregnancy different parts of immune system becomes enhanced while others are suppressed. For a pregnant lady, the body naturally weakens the immune system hence there is higher risks for viral and bacterial attacks.

If there is increased risk to pregnant women and foetuses, so far it has not been readily detectable.

Predictions based on similar infections such as SARS and MERS suggest that pregnant women are at an increased risk of severe infection but findings from studies to date show that clinical characteristics of COVID-19 pneumonia in pregnant women were similar to those reported from non-pregnant adults.[2]

There are no data suggesting an increased risk of miscarriage of pregnancy loss due to COVID-19 and studies with SARS and MERS do not demonstrate a relationship between infection and miscarriage or second trimester loss. Risk of abortion is more in the first trimester for an infected mother.

It is unclear yet whether conditions arising during pregnancy including diabetes, cardiac failure, hypercoagulability or hypertension might represent additional risk factors for pregnant people as they do for non-pregnant people.

Vertical transmission

Vertical transmission is the passage of pathogens from mother to fetus during pregnancy before or after delivery. COVID-19 being a respiratory illness is less likely to be transmitted via placenta to the fetus. But there are some evidences which suggests the vertical transmission of COVID-19. There are two possibilities for a baby to be infected from its mother, it can either be vertical transmission that is before the birth or it can be after the birth due to the close contact of mother and baby. Most of all the patients showed lung abnormalities in pulmonary CT scan which was diagnosed after the delivery.[2]

Assessing the rate of vertical Transmission of COVID 19, various studies show that there is no or little evidence of transmission to the new-born. Studies show that vertical transmission does not occur by caesarean.[5] On the other hand, while assessing transmission through vaginal delivery, less positive cases of neonatal infections was observed. Another study showed that Steroid administration during pregnancy can affect the child.

Delivery as soon as possible for full term pregnant women is a better choice. Most studies showed no positive case among neonate but few study outcomes had a risk of infection.[3]

Study by Jie Yan et al concluded the result that collaborate the above findings. Neonatal complications were seen in pregnant women with other infections such as Middle East respiratory syndrome.

Mental health

Since corona virus pandemic is a widespread disease and caused about 54,000 deaths in India, even 180 and more deaths in Kerala, people are anxious and afraid of the disease. The mental condition is even worse due to the newer site of life, unemployment, work from home strategies, lack of contact with friends, other family members. This made a huge impact in the mindset of people mainly the pregnant ladies as they were restricted to move apart. The daily reports of corona pandemic is worsening and mostly the pregnant women are panic. There occurs high stress, changes in appetite, reduced sleep due to the fear of disease.

COVID 19 is increasing globally and resign in self-isolation which adversely affect the mental health of people. In case of pregnant women also depression and anxiety is reported.[4]

When pregnant women get affected with COVID 19 increased level of stress, depression and anxiety. This fear and anxiety further affect the foetus.

Pregnant women have reported to stay away from hospital due to fear and so pulled back from hospital access during psychological issues. Various studies showed that >50% of pregnant women have stress and fear of their well-being and about their child's health.[5]
Even >80% of normal people reported to anxiety towards COVID 19.[6]

In India, lock down for about 3 months also have added up worsening of stress and mind-set. Around 30% pregnant women, as per study by Anokye R et al. Upadayay R. P et al,

concluded depression among them7. Another study showed that 76.4% reported fear when coming in contact with pregnant women.[7,8,9]

Figure 1: Percentage of mental status before and during COVID 19.[6,7,8]

	Depression	Anxiety	Toxic Stress
Before COVID 19	15%	29%	14%
During COVID 19	40.7%	72%	23%

Self isolation

The patients with COVID 19 will be isolated for a minimum period of 13 days since symptom onset. Self-isolation is being in home from the date of symptom onset till there is improvement in the medical status of patient. During pregnancy period self-isolation is a must, and monthly consultation with the doctors can be done at home itself.

The pregnant women having significant heart diseases or other vulnerable diseases will be having a higher risk of getting infection and severity of illness will be at a higher rate in those. So they should take more care during isolation period, preferably shielding measures should be taken.

Caesarean or normal delivery

According to many researches pregnant women are forced for caesarean 1 to 2 weeks before the predicted date of birth. Epidural anesthesia is preferred for the infected pregnant women to avoid the worsening of respiratory distress. The patient will be categorized according to the severity of the disease and mental status of the mother and is then opted for cesarean or normal delivery. In complicated cases, severe infections the patient must undergo a cesarean before the predicted date of birth of child.[10]

If a patient has a scheduled elective caesarean birth or a planned induction of labour, an individual assessment should consider whether it is safe to delay the procedure to minimise the risk of infecting others.[11]

Cesarean rates are increased during COVID 19. The ranges would appear from 40% and more up to 90% while on other hand vaginal delivery rates were low about 57%.[12,13]

Many studies have shown that cesarean would reduce the risk of vertical transmission and delivery should be carried out as soon as possible. Most of the pregnant women involved in study undergo more cesarean when compared to vaginal delivery. 91% reported to have

cesarean. Pregnant women are advised to follow guidelines for COVID 19 to reduce the risk of infection and also other stress.[14,15]

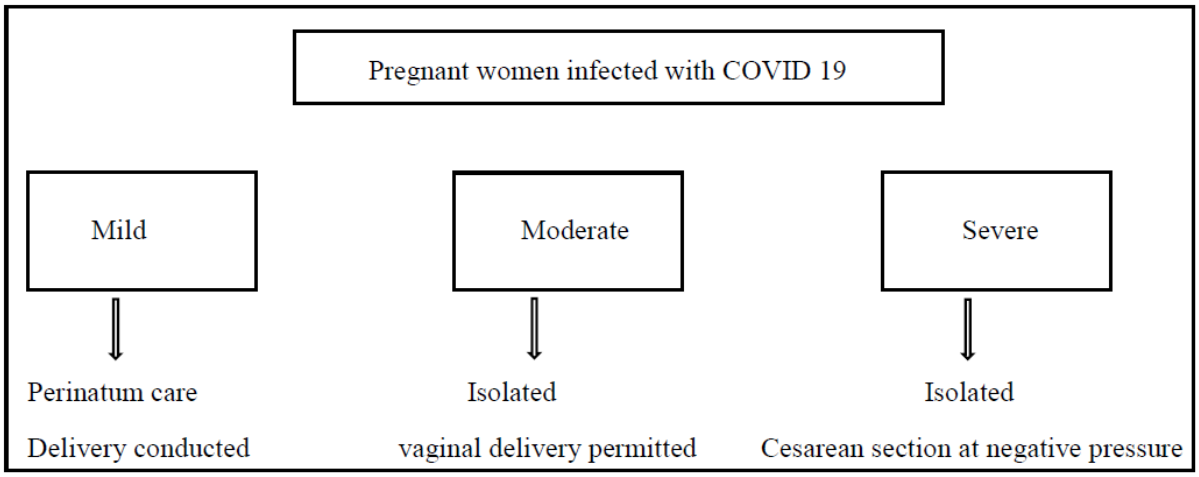

Figure 2: Treatment pattern for COVID 19 infected pregnant mothers.[14,15]

Impact of covid 19 on abortion

Risk of abortion is more in the first trimester for an infected mother. Studies show that COVID 19 infected patients during the first trimester may undergo spontaneous abortion which can harm mother also. There are no data suggesting an increased risk of miscarriage of pregnancy loss due to COVID-19 and studies with SARS and MERS do not demonstrate a relationship between infection and miscarriage or second trimester loss.[16]

During the pandemic situation many pregnant ladies refused to go to the clinics to prevent the infection, and this made a huge impact. Some studies showed missed abortion and spontaneous abortion due to the reduced consultation with the doctor. It is inevitable to consult a doctor during pregnancy time.

Gestational diabetes and covid 19

Gestational diabetes is high blood sugar that develops during pregnancy and usually disappears after giving birth. Diabetes and other metabolic disease can increase the severity of COVID 19 infection. But gestational diabetes has shown no impact on infected pregnant women.

Treatment options

Hydroxychloroquine- It is an antimalarial, anti-inflammatory drug which was used for COVID 19 infected pregnant women till June 2020, and then was removed by the FDA due to the reduced effectiveness to COVID 19.

Azithromycin - It is a macrolide antibiotic which can be used in COVID 19 patients as immunomodulator. Limited studies showed risk of abortion while using this drug hence should be used with caution.[17]

Tocilizumab – It is a monoclonal antibody IgG1 which was used in the earlier stage of COVID 19 infection but not used now due to the evidence of miscarriage.

Corticosteroids – they are anti- inflammatory drugs which can be used COVID infection but have higher risk of foetal growth impairment.

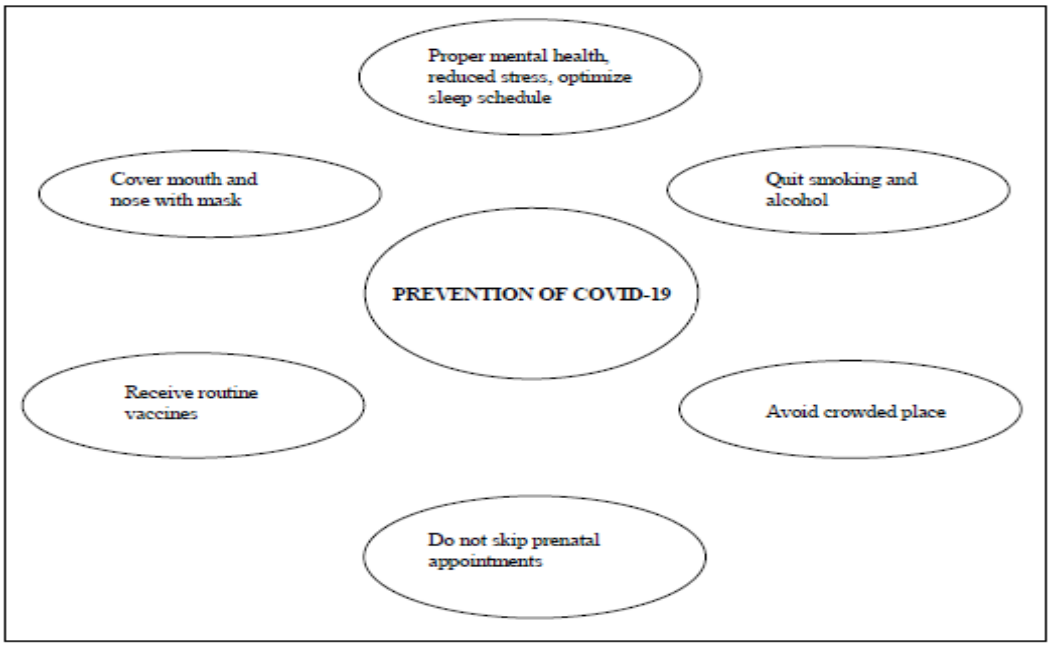

Figure 3: Steps to prevent COVID19 infection during pregnancy.[13,18,19]

CONCLUSION

COVID 19 is increasing day by day and hence the mental health is affected. Mostly the pregnant women are facing stress due to the pandemic situation due to the evidences of vertical transmission of viral disease to the child. Earlier vertical transmission were not reported but now there are evidences of transmission. More care should be taken in case of pregnant and nursing women to safeguard from viral infections. Cesarean is mostly preferred

than normal delivery in case of corona infected mothers. Cesarean should be done 1 week before the date of commencement of delivery. The preferred mode of delivery is cesarean. Self-isolation is a must to prevent the infection but consultation with the doctor at regular time is inevitable as it can lead to miscarriage. Gestational diabetes has no further impact on COVID 19 infected mother.

Conflict of interest

The author (s) declared no conflict of interest with respect to the authorship, research or publication of the article.

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