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Commentary

COVID-19 and pregnancy

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The current coronavirus pandemic (COVID-19) caused by severe acute respiratory syndrome coronavirus-2 (SARS-CoV-2) has posed a significant health challenge. The virus is extremely contagious and has resulted in considerable respiratory and multi-organ morbidity. As of now (first week of October 2020), India has the second-highest number of COVID-19 positive cases globally. Approximately 4.2 million cases have been reported so far in India till the beginning of September 2020. Physiological and mechanical changes in pregnancy increase the susceptibility to infections in general.

Moreover, respiratory illness affects pregnant women aggressively, thereby increasing morbidity and mortality. Previous coronavirus outbreaks, namely SARS (Severe Acute Respiratory Syndrome) and MERS (Middle East Respiratory Syndrome) infection in pregnancy, have led to severe maternal consequences in a small but significant number. These infections have also led to miscarriages and perinatal death. However, there has been no documented vertical transmission (Schwartz, 2020). As per Centre for Disease Control (CDC) report on the affection of pregnant women with COVID-19 infection in the United States, it was seen that pregnant women were 5.4 times more likely to be hospitalized (95%CI 5.1-5.6) and 1.5 times more likely to have ICU admission(95%CI 1.2-1.8) than non-pregnant women (Ellington, 2020).

There is no data to know the exact number of pregnant women with COVID-19 infection in India. Indian Council of Medical Research (ICMR) has initiated a COVID-19 registry for pregnant women, and the numbers are being collected.

COVID-19 infection in pregnancy poses multiple challenges, including the risk of vertical transmission, the virus's effect on the fetus, therapeutic controversies, and maternal-fetal complications (Chawla et al., 2020). Symptomatology of infections in COVID-19 like coryza, shortness of breath may be non-specific in pregnancy due to hyperemia of the nasopharynx, increased

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metabolism, increased fetal demand, and physiologically reduced lung volumes due to gravid uterus, thereby making the diagnosis more challenging. Hence, it is prudent to keep a high index of suspicion and rule out COVID-19 infection. RT-PCR of nasopharyngeal/oropharyngeal swab remains the gold standard. A computed tomography (CT) scan of the chest without contrast is also a proper investigation to confirm or rule out viral pneumonia. It should be performed in suspected cases as the risk of radiation exposure to the fetus is small.

Most of the pregnant women so far have been either asymptomatic or having mild disease. It is not known whether pregnancy-related immune regulation alters disease course by suppressing an exaggerated inflammatory response. Still, this disease in pregnancy can lead to several maternal complications like Acute Respiratory Distress Syndrome (ARDS) and septicemia as in non-pregnant conditions. Fetal complications have also been reported, including miscarriage, fetal growth restriction, and preterm birth (Dashraath etal., 2020). There have been no added risks of congenital anomalies in the fetus.

Treatment of pregnant women includes rest, adequate hydration, paracetamol and oxygen, if required. Antivirals, steroids, and anticoagulants are added in moderate to severe infection in consultation with physician/intensivist.

This pandemic has changed the course of obstetrics. Minimum in-person OPD visits are suggested by FOGSI-GCPR. Antenatal visits can be timed with ultrasonograms at 12-13 weeks, 18-22 weeks, and later antenatal visits can be at 30-32 weeks. Vaccination and antenatal profile can be timed with these visits. Growth scans in the third trimester are advised only if necessary. All other visits must be made available by tele-conferencing or video-conferencing as a duty by the obstetricians (Gandhi et al., 2020). Abortion care services are recommended to continue, as it is an essential health care need. Even the surgical methods of termination, which are necessary, should not be deferred due to gestation cut-offs, and adequate infection control practices are to be followed. A systematic review is done by Mascioetal., including 79 hospitalized women, 41 pregnancies were affected by COVID-19, 12 by MERS, and 26 by SARS. It was seen that in all hospitalized mothers infected with coronavirus infections, >90% of whom had pneumonia, preterm birth was the commonest adverse pregnancy outcome. COVID-19 was associated with a higher preterm birth rate, preeclampsia, cesarean, and perinatal death (Mascio et al., 2020). Antenatal steroids are recommended for fetal lung maturity if preterm delivery is anticipated from 24-34 weeks. The timing and mode of delivery in pregnant women affected with COVID-19 should be as per obstetric protocol and cardiorespiratory status. COVID-19 itself is not an indication for either induction of labour or cesarean section (Sharma et al., 2020). Continuous electronic fetal monitoring should be done during labour. Oxygenation should be monitored by a pulse oximeter, and oxygen therapy to be initiated if oxygen saturation is less than 94%. Indications for cesarean delivery should chiefly remain obstetric indications. However, if a woman is breathless, needing assisted ventilation in term pregnancy, a cesarean section can be offered (Rasmussen et al., 2020). Vertical transmission of the virus to the fetus in utero has been reported when a neonate born to a mother with COVID-19 infection was immediately isolated with no skin-to-skin contact. This neonate was detected to be positive with COVID-19 infection 16 hours after birth by RT-PCR and absent immunoglobulins (Alzamora et al., 2020).

SARS-CoV-2 has not been isolated in amniotic fluid, vaginal secretions, or breast milk. The umbilical cord is to be clamped promptly, and skin-to-skin contact is to be avoided. Neonatal resuscitation protocol is the same as in COVID-19 mothers. A healthy neonate is to be roomed with the mother, and breastfeeding is initiated following hand and respiratory hygiene (Chawla et al., 2020).

There is no clear-cut data to understand the mental impact of COVID-19 infection in pregnant and postpartum populations. Pregnant women need continued care and reassurance, even if the world is in isolation. Especially the labour and delivery period is most difficult due to restrictions in the entry of birth support personnel. Pandemic has led to profound psychological reactions, including panic, sleep disturbances, and increased stress levels, which seem to be due to exhaust coping mechanisms. The article addresses mental health issues for obstetric women with COVID-19 infection highlights that many women are susceptible to psychiatric illness in the perinatal period (Werner et al., 2020). In a case series of 3 COVID positive women with postpartum psychosis, it was shown that social isolation due to COVID-19 infection could lead to this condition. It was postulated that the altered immune mechanisms in COVID-19 infection might be a risk factor. Moreover, the virus's neurotoxic effect or the host's immune response can also play a role (Subramanyam et al., 2020).

Another cause of concern regarding obstetric practice in corona pandemic times is the enormously increased risk of exposure of obstetric health care providers due to long interaction time in labour and unprecedented obstetric emergencies, including cesareans. Practicing infection prevention principles can help to ward off the infection. Focus is now on teaching mothers to take care of themselves at home, including their diet, following hand hygiene, wearing a mask at all times, and following social distancing norms. The role of good nutrition and specific micronutrients to improve the immune function to fight COVID-19 infection cannot be undermined. A balanced diet with essential nutrients like vitamin A, B, C, D, and essential minerals are known to strengthen immunity (Richardson, 2020). Fortunately, this virus seems to affect pregnant women only mildly. However, little is known if the neonates born to women with coronavirus infection will have parallel development and milestones as the rest of the children. Indeed, this coronavirus has taught us many lessons for our living in the new normal world. With the development of vaccine and evolving guidelines and more unique protocols for handling COVID-19 infection in the perinatal period, pregnant women can look forward to safer times. Till then, stay safe !

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