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Review Article

Obstetrical Difficulties Encountered throughout the COVID-19 Pandemic: A Narrative Review

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Abstract

Background: *Women of childbearing age are affected by the severe acute respiratory coronavirus 2 (COVID-19) pandemic in a variety of ways, beginning with preconception health and continuing through postpartum care. This narrative review provides a synopsis of the difficulties brought on by the severe acute respiratory coronavirus 2 (COVID-19) pandemic in the field of obstetrics. In this study, we discuss the effects of COVID-19 on obstetric practice across the world and the responses that have been made to this epidemic. Research on the impact of COVID-19 on pregnancy, the result of COVID-19-positive pregnancies, and the safety of vaccination during pregnancy and nursing is urgently needed.*

Key words: *COVID-19, Obstetrical Difficulties, Pandemic, SARS-coV-2.*

Introduction

The COVID-19 pandemic is a watershed event that has resulted in widespread disorder and bewilderment on a global scale. This catastrophe has created an incalculable amount of disruption in medical services all over the world, especially those pertaining to maternal health. This disruption is a direct effect of the severe acute respiratory syndrome coronavirus-2 (SARS-coV-2). The disastrous effect that the pandemic has had on the delivery of healthcare services, particularly for pregnant women, has put an extreme amount of stress and strain on health systems around the world.[1] Despite the implementation of good practice and the constant efforts of healthcare personnel, COVID-19-related maternal deaths have been recorded.[2] In light of this, it is imperative that a well-organized framework be put into place with great care in order to realize the global goal of ensuring that pregnancy and deliveries are carried out without incident.[3] Because of the widespread COVID-19 epidemic, pregnant women have had less access to the use of medical services and facilities, which has had a severe influence on the health of both mothers and children.[4]

Conception planning challenges

The resurgence of the SARS-Cov-2 virus has a variety of different effects on the outcomes of pregnancies. Many women have reported changes in their behavior towards conception, with some deciding to postpone pregnancy owing to unemployment and the attendant financial and economic instability that it brings about. The COVID-19 pandemic has, in general, had a considerable impact on decisions about the planning of pregnancies, the vast majority of which are concerned with mother health and the outcomes of pregnancies.[5]

Obstacles presented by reproductive technologies assisted in conception The COVID-19 epidemic imposed a level of strain on the world's healthcare system that had never been seen before. As a result of the epidemic, numerous nations proposed the trial of stopping non-essential medical services, such as assisted reproductive technology (ART) and in-vitro fertilization (IVF), as a means of containing the spread of the SARS-CoV-2 infection.[6,7] The majority of human reproduction organisations advocated for the deferral of embryo transfer procedures for ongoing cycles as well as the cessation of new cycle beginnings. These guidelines demanded the presentation of fresh evidence in order to make adjustments to the management of assisted reproductive technology.[8]

At the global level, 88.6% of 299 reproductive medicine clinics reported some level of closure, with 53.8% reporting complete closure and 23.7% reporting partial closure. In terms of changes to the volume of IVF cases, 76.6% of clinics reported a reduction of at least 75% in the number of fresh cycles, 80% of clinics reported a reduction of at least 75% in the number of frozen cycles, and 73.6% of clinics reported a reduction of at least 75% in the number of IUI cases. 3.7% of clinics indicated that there was no decrease in the number of cases.[9]

The COVID-19 pandemic had a negative impact on in vitro fertilization and assisted reproductive technology. A survey found that 62 percent of women having infertility treatment postponed their treatments due to a shortage of secure transportation, while 20 percent of instances delayed treatment due to financial reasons, and 9 percent of couples decided not to continue treatment due to fear of the pandemic.[10]

It is recommended that standard protocols be developed and rigorously put into place in order to safeguard patients and laboratory personnel from the potential adverse effects of COVID-19 infections that are spread through aerosols.[11] In order to restart assisted reproductive technology (ART) and in vitro fertilization (IVF) services, it is vital to have a robust plan to protect gametes and embryos with strict adjustments in laboratory procedure.[12]

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Obstacles encountered in antenatal care and the potential role of telemedicine Because of the pandemic, clinic hours were cut significantly, which led to a considerable fall in the number of women seeking prenatal care, according to a global survey.[13] As part of the efforts being taken on a national scale to combat the pandemic, a significant number of healthcare workers (HCW) were sent to COVID-19 hospitals and vaccination centers. When a lockdown and an Enforced Movement Control Order (EMCO) were in effect in Malaysia, the entire transportation hub was disrupted, and people were only permitted to leave their homes for certain periods of time and for certain reasons, such as to attend to medical emergencies or to shop for groceries. Access to elective prenatal consultations was hindered as a result of this limitation.[14] During the COVID-19 pandemic, the amount of maternal education, the distance from maternal health clinics, and the monthly income were directly connected to the decreased utilization of maternal healthcare clinics.[15]

The widespread anxiety that pregnant women have regarding the possibility of getting COVID-19 has resulted in an 87% decrease in the utilization of prenatal care services.[16]
There was a lack of direct management and engagement between healthcare staff and the pregnant patients they were responsible for. Telemedicine was used in some medical facilities to provide antenatal care to patients, with the goal of reducing the amount of time spent actually interacting with patients in person.[17] Anaesthetists, for example, evaluated patients who were electively scheduled for caesarean section through the use of video chats. Obstetricians, on the other hand, viewed patients' blood pressure and sugar profiles from the comfort of their own homes. During the pandemic, mothers who had received tele-education from psychologists demonstrated a lower frequency of prenatal stress and anxiety.[18] However, a number of significant factors, including illiteracy, poverty, insufficient access to the internet, and ethnic minority status, need to be taken into consideration as potential roadblocks to the development of telecommunication.[19]

Because of the order to stay inside during the pandemic lockdown, many women who were already in violent relationships had less contact with their families and friends, who otherwise could have offered them protection and support against the violence they experienced at the hands of their partners or spouses.[20] During this time period, telemedicine played an important part by supplying victims with ongoing support to prevent any deterioration in their physical, mental, or sexual health. This was accomplished with the goal of preventing any further tragedies. Telemedicine, in a nutshell, might be an alternate type of basic antenatal care that could reduce face-to-face hospital visits and minimize the chances of cross infection during the pandemic.
The decline in the number of people seeking medical attention and the number of healthcare providers is likely to blame for the worsening of pregnancy outcomes over the world during the COVID-19 pandemic.[21] Due to the lockdown and the fear of COVID-19 infection, one-third of pregnant women who did not have adequate antenatal care as a result of the delay in seeking healthcare during the lockdown ended up having a 44.7% increase in pregnancy complications, according to a study that was published in.[22] There was a 37% increase in symptoms of depression and anxiety among pregnant women in Canada who were concerned about the effect of COVID-19 on themselves and the lives of their babies.[23] This was found among women who were concerned about the effect COVID-19 would have on themselves and the lives of their babies. Even though it was highly unusual for the COVID-19 virus to be passed from mother to child before, during, or after delivery or through nursing, pregnant women who exhibited signs of COVID-19 were more likely to experience negative consequences than nonpregnant women.[24] A number of research supported the hypothesis that there is a possibility of an increased risk of psychiatric problems as well as domestic violence during pregnancy and after birth.

Obstacles encountered during the delivery

There is a correlation between COVID-19 infection during pregnancy and an increased rate of cesarean section surgeries.[25] This is because there is a requirement to cut down on patient contact, particularly with those patients whose reverse transcription Polymerase Chain Reaction (rt-PCR) or rapid test kit (RTK) findings came back positive for COVID-19. During the COVID-19 pandemic in China, a cohort study conducted at a tertiary hospital in Beijing found evidence of an increase in the risk of premature rupture of membranes by 11%, an increase in the risk of fetal distress by 14%, and an increase in the number of women exhibiting either inadequate or excessive weight gain.[26] The study also found that more women manifested either inadequate or excessive weight gain.
When pregnant patients with mild COVID-19 clinical characteristics are admitted to the hospital, a multidisciplinary team must take the appropriate approach in order to ensure correct therapy and favorable results for both the mother and the newborn.[27] Patients who are exhibiting symptoms of COVID-19 should be promptly isolated, and those who have been confirmed to have the infection should be admitted to isolation rooms with filtration systems or rooms with negative pressure.[28] Patients who are confirmed to have the infection should be kept away from other patients. When compared to rt-PCR, the sensitivity of the RTK antigen for detecting COVID-19 in pregnant women who are in the active phase of labor is 82% higher. This screening is performed in Malaysia. In addition to maintaining a social distance from these patients, healthcare workers who are responsible for their care wear personal protective equipment (PPE) gear. This gear includes a face mask rated N95, a face shield, gloves, and an apron. In order to reduce the amount of direct patient interaction, the

requirements for carrying out an emergency caesarean section are maintained to a bare minimum. In a number of instances, medical facilities in Malaysia have been forced to conduct perimortem caesarean sections on mothers who were terminally ill with severe COVID-19 in order to preserve the lives of their unborn children.

Postpartum challenges

Patients who are concerned about getting the disease while they are in the hospital may find some solace in the fact that hospitals are required to employ stringent infection control measures to minimize the risk of COVID-19 transmission in the hospital setting. Multiple studies have found that there are no significant differences in the outcomes for the neonates of symptomatic COVID-19 positive moms and symptomatic COVID-19 negative mothers when comparing the two groups. The most recent recommendations for postpartum mothers who tested positive for COVID-19 recommend that they continue nursing while also practicing proper hygiene, sanitizing their hands, and using a face mask designed for medical use.[29]

The intensity of the postpartum psychological alterations that women experience might vary significantly from one another across the globe. Women who gave birth during the COVID-19 pandemic were found to have a significantly higher frequency of postpartum depression and post-traumatic stress symptoms, according to the findings of a cross-sectional study carried out in Torino, Italy.[30] However, research conducted in Israel found that women who gave birth during the pandemic had a decreased incidence of postpartum depression compared to women who did not give birth during the pandemic.[31]

For patients who test positive for COVID-19, the World Health Organization (WHO) suggests that breastfeeding should be maintained by continued skin-to-skin contact.[32] During the COVID-19 epidemic, moms who breastfeed their children should choose appropriate venues such as public lactation facilities that are well-ventilated and have health security.[33] An earlier counseling on contraception and the completion of consent forms are undertaken antenatally using electronic means because many patients would request a rapid discharge from postnatal wards during the pandemic in the event that deliveries did not involve complications.[34]

Obstacles confronted by the COVID-19 vaccination

It has been noticed that pregnant women exhibit caution when it comes to obtaining the COVID-19 vaccination, with the main issue being the safety of the vaccine when the woman is carrying the child.[35] On June 10, 2021, the World Health Organization (WHO) issued a recommendation that pregnant women receive vaccinations whenever the benefits of immunization outweighed the potential dangers of vaccination. In addition, the WHO did not recommend that mothers who had received the COVID-19 immunization stop breastfeeding their infants. There is growing evidence that COVID-19 vaccinations are safe to use during pregnancy, with the first dose of the vaccine ideally being provided between 14 and 33 weeks of pregnancy.[36] Bangladesh is part of the worldwide pandemic caused by severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2). Along with rest of the population huge number of pregnant women are also affected. In Bangladesh 1,19,198 persons are detected corona positive from 8 March, 2020 till 23 June, 2020 and died 1545 persons.[37]

In Malaysia, severe COVID-19 infections in pregnant women have been linked to advanced maternal age and the presence of many medical conditions. There was a 2.062% maternal mortality rate among pregnant women who were infected with COVID-19, with the majority of cases occurring among those who were not vaccinated.[38] In an effort to lower the overall mortality rate, mega vaccination centers were established, and immunization became mandatory for pregnant women. Women who were pregnant and lived in remote regions were not excluded from this vaccination effort. Health care workers were carried in by helicopter to places that could only be reached by river in order to vaccinate pregnant women and other people with a single dose of the vaccine.

There is evidence of higher SARS-CoV-2 immunoglobulin G and A (IgG and IgA) antibodies in the breast milk of mothers who have been vaccinated against the COVID-19 virus after one week of the initial dose.[39] These antibodies may provide protection for the mothers' infants. At 2 weeks after receiving the first dose of vaccine, 61.8% of breast milk samples that were tested came back positive for anti–SARS-CoV-2-specific IgA antibodies. At 1 week after receiving the second dose of vaccine, 86.1% of breast milk samples came back positive. The levels of anti–SARS-CoV-2–specific IgG antibodies, on the other hand, remained low during the first three weeks after vaccination but gradually grew to 91.7% at week 4 and 97% at weeks 5 and 6.[40] It is possible that these antibodies will provide some protection against COVID-19 to the infant of a breastfeeding mother, which is helpful to the mother. However, additional study needs to be done before conclusively stating that immunization is beneficial for this particular population of women.

Difficulties in the patient referral and transportation processes

In the event of an obstetric emergency, appropriate referral direction and patient transportation should be provided in order to assist screening, isolation, and the provision of optimal care for infected pregnant women at hospital facilities.[1] The patient care cabin and the driver cabin of ambulances that are going to transport patients with suspected or confirmed COVID-19 should be meticulously cleaned, washed, and disinfected. Additionally, personal protective equipment (PPE) and used materials should be disposed of in a secure manner. This necessitates the utilization of a stringent professional checklist in order to prevent errors that may contribute to an increase in the rate of COVID-19 virus transmission among healthcare personnel and patients.[41]

Repercussions for those working in healthcare

During the COVID-19 outbreak in China, it was discovered that healthcare personnel were experiencing psychosocial issues, which indicated the need for essential attention and recovery programs.[42] During the pandemic that was going on in China, Lai et al. observed that healthcare personnel experienced occurrences of 50.4% depressive symptoms, 44.6% anxiety, 71.5% distress, and 34% insomnia.[43] As a direct result of increased workloads, frontline healthcare staff have reported encountering difficulties sleeping and resting enough. The difficulty to seek support from family and friends was also cited as a contributing factor in the development of symptoms of sadness, anxiety, and distress. However, nurses had a good response when confronted with the moral and ethical problems they faced while working during the pandemic.[44] All healthcare workers in Malaysia have access to ongoing psychological support through telemedicine, which can be received online. In addition, additional health care workers from wards that are not considered necessary are being moved to assist in the care of patients affected by COVID-19 and at vaccination centers. Because of this, the workload of the other HCW has been significantly decreased, which has led to an improvement in their quality of life.

During the pandemic, a tertiary government hospital reported a significant delay for both the decision-to-delivery interval and overall operative time as a result of obstacles caused by the enforcement of new safety measures for healthcare providers and patients such as procedure preparation, anesthesia, and obstetrician factors.[45] This delay affected both the decision-to-delivery interval and overall operative time. It was needed that operating rooms make certain preparations, such as modifying the infrastructure, segregating the crew, and managing patients in accordance with clinical recommendations and infection control techniques. The mandatory use of personal protective equipment (PPE) considerably increased the amount of time needed to perform an urgent caesarean section on individuals with suspected or confirmed cases of COVID-19.[46] During obstetric procedures, surgeons and anesthetists have reported decreased vision, tactile sensation, and attention due to the use of multiple layers of personal protective equipment (PPE). During the COVID-19 pandemic, the government of Malaysia spent billions of ringgit on purchasing personal protective equipment (PPE) and increasing the allowances of healthcare workers (HCW).[47]

The Center for Disease Control and Prevention (CDC) suggests delaying elective surgical procedures, while emergency cases should be managed without delay after a COVID-19 status assessment.[48] Procedures should be carried out by skilled surgeons to reduce the amount of time spent in surgery and the likelihood of infection. Because of this advice, there will be less opportunities for students and interns to receive training. Despite this, there are a variety of e-learning and social media platforms, such as WhatsApp, Instagram, Twitter, and YouTube, that could be utilized to their full potential in order to raise awareness about the significance of PPE in preventing the spread of nosocomial infections caused by the COVID-19 virus.[49] In order to reduce the likelihood that other patients or healthcare professionals would be exposed to the ever-changing COVID-19 virus, it is imperative that rapid dissemination of updated recommendations and practices relating to the virus be carried out.

Conclusion

The COVID-19 pandemic has caused a crisis in healthcare that has never been seen before on a global scale. As a result, obstetric care has been very seriously impaired, and prenatal, intrapartum, and postpartum care for pregnant women and new mothers has been badly disrupted. Despite this, numerous initiatives have been taken by healthcare institutions to support obstetric services during the COVID-19 pandemic in an effort to lower the mortality rate. Evidence from clinical trials should always serve as the foundation for clinical guidelines and recommendations, rather than the consensus of particular experts. It is vital to enforce stringent SOPs in the community setting in order to cut down on the frequency of cross infection and as a way of reassuring patients to use the existing health facilities. In order to fulfill the demand for patient follow-up and to lower mortality rates connected to COVID-19, concerted efforts need to be put together to upgrade all integrated technologies. In addition, internet access needs to be increased.

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