

REVIEW ARTICLE

Antenatal care, care at birth, and breastfeeding during the Coronavirus (COVID-19) pandemic

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Abstract

Coronavirus (COVID-19) pandemic has been declared by the World Health Organization after it has gripped many countries of the world. The exponential increase in the number of cases has resulted in panic and confusion among healthcare workers and the vulnerable population. Pregnant and lactating mothers are a vulnerable group and need evidence-based advice to protect the health of the mother and the child. Healthcare workers can play an important role in dispelling the myths and misconceptions among pregnant and lactating mothers regarding COVID-19, if they are equipped with scientific information on antenatal care, care at birth, and breastfeeding. This review attempts to summarize the published evidence related to antenatal care, care at birth and breastfeeding during the COVID-19 pandemic.

Keywords

COVID-19; Corona Virus; Antenatal Care; Breastfeeding; Obstetric Care

Introduction

Coronavirus (COVID-19) pandemic has been declared by the World Health Organization after it has gripped many countries of the world. The exponential increase in the number of cases has resulted in panic and confusion among healthcare workers and the vulnerable population. Pregnant and lactating mothers are a vulnerable group and need evidence-based advice to protect the health of the mother and the child.

The commonly encountered issues during pregnancy and lactation are regarding the vulnerability of pregnant women to COVID-19, the precautions which should be taken by a pregnant woman, the status of vertical transmission, mode of delivery and so on. It is too early to answer these questions regarding COVID-19 infection in pregnant and lactating mothers. Limited evidence is available on the guidelines for pregnant and lactating

mothers with COVID-19 infection as for now. This review attempts to consolidate the published evidence available on the pertaining issue to enable healthcare workers to provide correct advice to the pregnant and lactating mothers.

Pregnant women in the community

Vulnerability of pregnant mothers: Physiological & immunological changes during pregnancy make women more susceptible to viral respiratory infections, reported in other coronavirus infections [MERS, SARS]. (1) Yet the scant evidence available suggests that pregnant mothers are not at higher risk of infection of COVID-19 than the general population. (1,2)

Special precautions needed for pregnant mothers: All pregnant mothers need to follow preventive measures

(social distancing, handwashing, hygienic practices) in addition to their regular antenatal care. ([Flowchart 1](#))

Routine antenatal visit: Routine antenatal check-ups are necessary. Yet any visit to hospital in the current COVID-19 pandemic scenario need to be avoided unless in case of an emergency. Primary health care facilities should be preferred over overcrowded secondary or tertiary level healthcare services. The role of frontline health workers in routine antenatal visit is crucial. Telecommunication is another strategy in this period for maintaining the continuity of quality antenatal care services. Any emergency obstetric / high risk pregnancy requiring immediate or regular consultation should not be delayed visiting the hospital.

The role of front-line health workers: The Ministry of Health and Family Welfare's (MoHFW, India) recent document on role of frontline workers in prevention and management of corona virus has advised to ensure the continuity of tasks related to pregnant women, new-borns and sick children, post-natal care, breastfeeding and nutritional counselling. (3) The following steps can be taken by the health care workers to provide the correct information, address the misconceptions and myths, create community awareness, support and assist the community in the COVID-19 pandemic period in India.

1. First and foremost is the safety and preventive measures of the health worker. The health workers need to protect themselves too while engaging with the community.
2. Communicate with the pregnant mothers to educate about preventive measures.
3. Ensure routine antenatal check-up: If the visit to health care setting is questionable, health care workers may be involved in ensuring regular antenatal check-up (measuring weight, blood pressure, dispensing IFA tablets) in the community level. Telecommunication if possible, with ANM or Medical Officer pertaining to obstetrical or medical symptoms for proper referral.
4. Post-natal care: Home based neonatal care: Regular care should be given to be neonates in addition, ensure isolation of the baby if anyone in the family shows symptoms. Advise the mothers regarding hand washing before and after handling the baby.
5. Breastfeeding and nutritional counselling: Encourage and assist in breastfeeding practices. Lactating mother should be provided with adequate practical, psychological and social support to breastfeed their infants and young children who are suspected or confirmed COVID-19 infection.
6. Early detection and referral: Screening (fever, dry cough, breathing difficulty) of pregnant mothers helps in early detection. Health care workers should arrange or accompany the pregnant women (with infection prevention control measures) to the health care setting.

Pregnant women in the hospital

Prior intimation regarding the arrival of pregnant women with symptoms facilitates the health care personnel for preparedness from receiving her from the waiting area to the complete course of management.

A comparative study revealed that clinical symptoms of COVID-19 were atypical in pregnant women in comparison with non-pregnant adults could increase the difficulty in initial identification. (4)

Antenatal care: Pregnant women with confirmed COVID-19 infection or suspected or Person Under Investigations (PUI) should get appropriate obstetric care during antenatal visit, labour and delivery and postpartum recovery in addition to isolation methods, Infection Prevention and Control (IPC) measures. (5) Adverse events documented in the limited studies like prematurity, serious respiratory illness needs to be discussed with the mother in prior. (6,7)

Care at birth: COVID-19 infection alone is not an indication of pregnancy termination. There is no clear evidence regarding optimal delivery timing, chance of perinatal transmission or mode of delivery for pregnant women with COVID-19 infection. Vaginal delivery through induction of labour, with assistance (instrumental delivery) to prevent further maternal or fetal complication is advised, possibly in a negative pressure room with limited members and adequate IPC measures. Caesarean section is only recommended for obstetric indications and solely depends on maternal or foetal status.

Vertical transmission: No evidence of vertical transmission has been documented as for now. (1,2,5) A case of COVID-19 has been reported in a neonate at 30 hours of life which is single earliest neonatal presentation. (6) The time of transmission of COVID-19 is not known in infected infants. New-born: Infants born to mothers with confirmed COVID-19 should be considered Persons Under Investigation (PUI) and temporarily isolated for 14 days or until transmission-based precautions are discontinued. All infants need to be monitored closely for clinical features of COVID-19 with adequate neonatal care.

Breastfeeding: All infants born to mothers with confirmed or suspected COVID-19 should be breastfeed. (1,2) The benefits of breastfeeding far outweigh the risk of unknown breastmilk transmission.

Direct breastfeeding: Mothers with suspected or confirmed COVID-19 infection can also breastfeed their child directly with necessary IPC measures. She should wear surgical face mask, practice hand hygiene, respiratory hygiene and perform routine disinfection of surfaces whenever she comes in contact with the newborn child.

Indirect methods: Mothers with severe illness should be supported to express breastmilk. Ensure the infants have adequate nutrition and taken care by healthy caregivers. Women should express regularly to ensure lactation, and

supportive psychological care should be provided as needed.

Testing for COVID-19 during pregnancy: Guidelines for pregnant women with COVID-19 recommend testing of COVID-19 in symptomatic patients requiring hospital admission or pregnant woman who has had close contact with a patient with confirmed SARS-CoV-2 infection or with travel history, even if asymptomatic (5, 8).

Pregnant mother with positive COVID-19: Asymptomatic pregnant mothers in early trimester with confirmed COVID-19 infection should be in self-isolation at home for at least 7 or 14 days and monitored for clinical features. (1,2,5,8) These patients especially in the later trimesters should be monitored for foetal well-being through ultrasound and doppler investigations twice a month because of the potential risk for intrauterine growth restriction. (5)

Management of COVID -19 pregnant mothers: Pregnant women with COVID-19 pneumonia ought to be managed by a multidisciplinary team at a tertiary care centre. Concerns regarding risk of teratogenic effect of empirical treatment and radiological investigations need to be addressed.

Pregnant healthcare personnel (HCP): They should follow risk assessment and infection control guidelines for HCP exposed to patients with suspected or confirmed COVID-19. As information on COVID-19 in pregnancy is very limited, adherence to recommended infection prevention and control practices is needed. Exposing a Pregnant health care personnel especially during higher risk procedures (e.g. aerosol-generating procedures) should be avoided. The Government of India considered maternity leave should not be cancelled even during this crisis is appreciable.

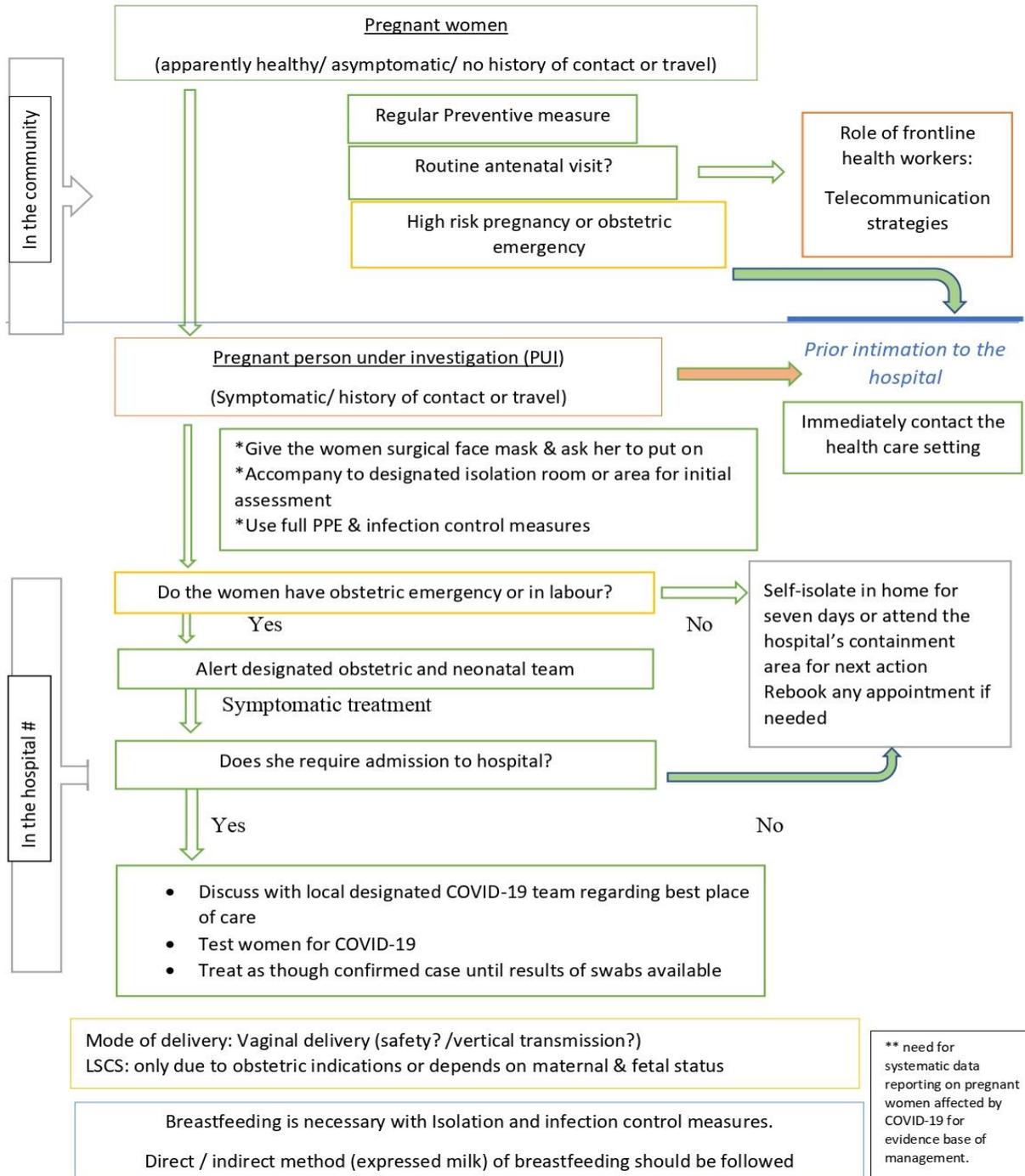
COVID-19 pandemic presents a huge challenge for pregnant and lactating mothers, and health care workers too. Maintaining continuity of antenatal and postnatal care is also challenging for the healthcare workers. Personal protection, careful assessment of risks and benefits, and evidence-based actions can be helpful for the healthcare workers in these times. More studies are emerging related to the COVID-19 pandemic. We suggest that the medical professionals and health care workers should be updated with the emerging guidelines in this context.

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Figures

FLOWCHART 1 CARE OF PREGNANT WOMEN DURING THE COVID-19 PANDEMIC



Mode of delivery: Vaginal delivery (safety? /vertical transmission?)
LSCS: only due to obstetric indications or depends on maternal & fetal status

Breastfeeding is necessary with Isolation and infection control measures.
Direct / indirect method (expressed milk) of breastfeeding should be followed

** need for systematic data reporting on pregnant women affected by COVID-19 for evidence base of management.

Source: Partially derived from Royal College Obstetricians and Gynecologist (8)