

COVID-19 in Pregnancy

Rapid Response Guidelines Version 1.1

1. Introduction:

SARS-COV2 virus causes covid-19 disease which affects the respiratory system-causing flu-like symptoms including lower and upper respiratory tract infection. WHO has recently announced it as a pandemic disease. Transmission is by close contact with infected patients' oronasal secretions or droplets. Until now, it is not known to be detected in other body secretion, including amniotic fluids and breast milk.

- Effect of covid-19 virus on pregnancy: no available data to show it can cause congenital malformation however some reported cases has shown preterm delivery of women infected with covid-19 (limited data)
- vertical transmission from infected mothers to new-borns has not been shown so far.

2. Aim, scope & targeted population:

- 2.1 These guidelines are produced by the Saudi MOH and includes instructions to guide the care of pregnant mother with infected corona virus
- 2.2 End users: health care facilities, health care providers including ER, obstetricians, midwives, nurses and paediatricians.
- 2.3 Targeted population: corona virus infected pregnant mothers or suspected infected mothers

3. Update and Review: this is a rapid response guideline that should be updated with new emerging data or within 3 months

4. Instructions for health care givers for pregnant patients infected or suspected to be infected with corona virus:

4.1 Exposed to an infected patient with infected corona virus:

If a pregnant woman is exposed to infected patient with corona virus, the health care provider should follow the latest edition of MOH corona virus-19 guidelines.

4.2 Antenatal:

- A. Isolation measures, supportive treatments should be applied following the MOH corona virus disease 19 guideline.
- B. Any pregnant woman diagnosed with COVID-19 disease will not attend to antenatal clinic till she is cured.
- C. Routine antenatal clinic appointments can be delayed till patient is cured
- D. COVID-19 is not known to cause fetal congenital anomalies
- E. Serial ultrasounds every 4 weeks for fetal anatomy and fetal wellbeing starting from 24 weeks of gestation is advisable

4.3 Labour & delivery:

- A. Delivery should occur in an isolated room and the room should be disinfected right after the patient is discharged to the ward following the infection control measures
- B. Continuous fetal monitoring during labour.
- C. Normal vaginal delivery with delaying rupture of membranes is advised.
- D. Caesarean section is for obstetrical reasons.
- E. Operative vaginal delivery is not contraindicated
- F. Labor, delivery and recovery should be done in the same room.
- G. All care givers in contact with the patient should use protective gears (minimum to include) face mask with eyes shield , gloves , head cover and disposal gowns as per infection control policies
- H. Caregivers handling a patient with corona virus should change all their clothing's (if they are not wearing protective gowns and head cover) and wash hands before handling another patient(kindly referee to the infection control policies and MOH COVID -19 disease guidelines) .
- I. Routine types of anesthesia and analgesia are not contraindicated.
- J. New born babies of covid-19 infected mother should not be allowed to be in contact with their mother's till the mother is cured or declared free of the disease (following the current isolation measures in MOH COVID-19 disease guidelines)
- K. Isolation of those babies till they are declared clear from the virus or for 14 days
- L. If the new-born is tested positive for covid-19, it should be kept in isolation until it is cured or test negative.
- M. Transfer a new born from delivery room: a gentle bath with warm water and soap should be done

- N. Placenta should be kept in a container that will be washed before handling to responsible department and labelled according to the infections control policies.
- O. No relatives should be allowed into the delivery room
- P. Pregnant patients with suspected covid-19 infection will be dealt with as if they are infected.

4.4 Breast feeding:

- A. Mother breast milk is the best nutrition to a new-born.
- B. Direct breast feeding is not advisable (risk of direct infection with close contact)
- C. Extracted breast milk can be fed to the infant using milk bottles with the help of another person if possible
- D. Precautionary measures are to be strictly followed as per MOH COVID-19 guidelines and it includes : washing hands and breast – wearing a face mask – using a clean breast pump – clean the surface of the milk collection container – another person to feed the baby
- E. If mother isolation is not required and breast pump/ milk extraction is not feasible then the patient can be allowed to breast feed with taking inconsideration the previous protectionary measures with the addition of a protective sheet between the mother and the baby.

4.5 ER instructions:

- A. A patient with corona virus or suspected infection with corona virus should be immediately isolated and not sent to the general labour ward.
- B. During transfer to the isolated delivery room precaution measures should be strictly applied (masks , disposable gowns, limited handling to the minimal number of contacts) following the infection control regulations
- C. Reporting to authorities should be done immediately as per MOH corona virus disease 19 guidelines

5. Pregnancy and Lactation Consideration of Potential Pharmacotherapeutic Agents:

Medication	Pregnancy and lactation
Paracetamol (acetaminophen)	a) Pregnancy: Oral paracetamol is considered safe in normal therapeutic doses for short-term use as a minor analgesic/antipyretic in pregnancy. - Consider Administering IV paracetamol to a pregnant woman only if clearly needed. Carefully assess maternal benefit and fetal risk before administering IV paracetamol during labor and delivery.

Medication	Pregnancy and lactation
	b) Lactation: Oral paracetamol is classified as compatible with breastfeeding by the American Academy of Pediatrics and the WHO. - For IV paracetamol, weigh the benefits of breastfeeding with the mother's clinical need for treatment with IV paracetamol and the potential for adverse effects on the breastfed infant or from the mother's underlying clinical diagnosis or condition
Hydroxychloroquine	a) Pregnancy: - Fetal risk cannot be ruled out. Fetal ocular toxicity have been reported. - Hydroxychloroquine use should be avoided during pregnancy, unless absolutely indicated and only after assessing maternal benefit and fetal risk. b) Lactation: - No adverse effects of Hydroxychloroquine in infants exposed during the lactation period have been observed. Although the benefits of breastfeeding outweigh the theoretical risk to the infant, the nursing infant should always be monitored for adverse effects.
Chloroquine	a) Pregnancy: - Fetal risk cannot be ruled out. Fetal ocular toxicity have been reported - Administer chloroquine during pregnancy only if the potential maternal benefit outweighs the potential fetal risk b) Lactation: - American Academy of Paediatrics and the WHO consider chloroquine compatible during breastfeeding. - WHO recommends against use in G6PD-deficient infants, and advises monitoring premature infants and neonates for side effects such as hemolysis and jaundice. - Due to the potential for adverse events in the nursing infant, advise the nursing mother to either discontinue nursing or discontinue chloroquine therapy, considering the clinical benefit of the drug to the mother.
Lopinavir/ritonavir	a) Pregnancy: - Fetal risk cannot be ruled out - Avoid the oral solution of this combination product during pregnancy due to the presence of ethanol as an excipient in the solution. b) Lactation: - Infant risk cannot be ruled out. - Advise women that breastfeeding is not recommended during lopinavir/ritonavir therapy due to the risk of serious adverse effects to the infant.
Remdesivir	Not studied
Tocilizumab	a) Pregnancy:

Medication	Pregnancy and lactation
	- Fetal risk cannot be ruled out b) Lactation: - Infant risk cannot be ruled out.

6. Level of evidence: Expert opinion

7. References:

- 7.1 CDC: <https://www.cdc.gov/coronavirus/2019-nCoV/index.html>
- 7.2 RCOG: <https://www.rcog.org.uk/globalassets/documents/guidelines/coronavirus-s-covid-19-virus-infection-in-pregnancy-2020-03-09.pdf>
- 7.3 WHO: <https://www.who.int/ar/emergencies/diseases/novel-coronavirus-2019>
- 7.4 Saudi MOH Corona virus disease 19 guidelines
- 7.5 Micromedex last access 29 Mar. 20
- 7.6 Saudi MoH protocol for patients suspected of/confirmed with COVID-19 v.1.2
25 Mar. 20