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SLCOG NEWSLETTER:

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COVID₁₉ Infection & Pregnancy

CONTENTS

- COVID 19: ARTICLE FOR THE MOH OBSTETRICIANS AND RELEVANT REGIONAL AUTHORITIES
- VACCINATION
- SURGICAL INTERVENTIONS IN COVID-19 POSITIVE PREGNANCIES
- PREGNANCY AND COVID-19: GLOBAL SITUATION
- SRI LANKAN PERSPECTIVE
 - ▶ EXPERIENCES OF PROVIDING MATERNITY CARE DURING COVID-19 PANDEMIC



COVID 19: Article for the MOH Obstetricians and Relevant Regional Authorities

The following advice is a general summary for clinicians to assist in the care of pregnant patients infected, or at risk of infection, with COVID-19.

1. **Minimise your contact with potential COVID-19 patients and take measures to reduce the risk of viral spread within your clinic and hospital.**
 - a) Patients with a possible COVID-19 infection should be directed to a specialised testing clinic where this is available.
 - b) Your clinic/hospital should have a dedicated room in which to assess and test potential COVID-19 patients with appropriate personal protective equipment (PPE) provided.
 - c) Patients entering your clinic/hospital should wear a face mask and at all times maintain a distance of 1-2m from each other.
 - d) Use telephone or video consultations wherever this is an appropriate alternative to a face to face consultation.
 - e) Provide timed appointments, where possible, to avoid crowding within your clinic.
 - f) Encourage patients to wait outside in designated outdoor seating areas with appropriate spacing until the doctor or nurse is ready to see them.
 - g) Have a policy in your hospital to restrict visitors.

2. **Antenatal Care**
 - a) Telephone and video conferencing should be considered, especially in early pregnancy, when counselling forms a large component of the antenatal visit.
 - b) A reduced frequency of antenatal visits may be appropriate especially in low risk antenatal mothers.
 - c) Specific precautions regarding COVID-19 for pregnant women remain the same as for the general population.
 - d) Pregnant women presenting with COVID-19 infection have the same clinical features, pathology and imaging findings as non-pregnant patients.
 - e) The risk of maternal complications are not yet definitely known but there is no current evidence of teratogenicity, increased miscarriage. There has been an associated increased rate of premature birth (in part iatrogenic), PROM and fetal distress in women with COVID-19 infection.
 - f) COVID-19 has not been found in amniotic fluid, cord blood, or breast milk in women who were COVID-19 positive.
 - g) Pregnant women living low socio- economic conditions will be at particular risk of COVID-19 infection due to a high incidence of nutritional deficiencies, chronic disease and overcrowded housing. You should have a low threshold for transferring vulnerable women who are pregnant and unwell from a COVID-19 infection to a centre with tertiary care facilities.
 - h) You should be alert to the increased risk of antenatal anxiety and depression and domestic violence due to the financial and social impacts of the COVID-19 pandemic adding to the normal stresses of pregnancy.
 - i) Consider the use of on-line resources or video conferencing to deliver antenatal and lactation classes.

3. **Intrapartum care**
 - a) Women with a known COVID-19 infection should be nursed in an isolated room, using PPE, with minimal interaction with non-essential staff and visitors.
 - b) The timing of delivery and mode of delivery will usually be determined based on the usual obstetric indications. Caesarean section may be indicated in a woman with significant symptoms of COVID-19 infection, and **it would be preferable to defer induction of labour or elective caesarean section for non-essential reasons until a woman has completed her isolation period, if that is possible or until viral shedding becomes minimal.**

- c) Continuous electronic fetal monitoring is recommended in any woman in labour with a known COVID-19 infection.
- d) The greatest risk to staff during CS relates to intubation during which time the virus load from aerosolisation is highest.

4. Post-partum care in infected mothers

- a) There is currently no evidence that a woman with a known COVID-19 infection who has recently given birth should be separated from her baby. She should avoid contact with other mothers and infants, appropriate precautions with hand washing and facial contact and consider wearing a mask when feeding.
- b) Breast milk from infected mothers has been shown to be negative for COVID-19 so breastfeeding is not contra-indicated. Where a woman is unwell, expressed breast milk can still be fed to her infant.
- c) The few neonatal infections that have been reported were acquired postnatally and the late third trimester, and the infants were not significantly unwell. Fetal distress and early neonatal complications when present were considered due to maternal illness or prematurity.

5. Post natal care in non-infected mothers

- a) Visitors should not be encouraged in post natal wards. National Guidelines states to minimize all visitors to any healthcare facility.
- b) Breastfeeding should be encouraged.
- c) Consider telephone and video consultations in the postnatal period.
- d) Consider psychiatric assessment and relevant psychiatric input for each and every patient.

Diagnosis

Diagnosis is made depending on the clinical presentation and contact history, confirmed by COVID specific testing. There are mainly two methods for confirming the diagnosis of COVID-19,

1. RT PCR testing
2. Rapid antigen test (RAT)
3. Antibody testing (IgG & IgM)

RT PCR

COVID-19 Virus is a mRNA Virus, the Viral mRNA is converted to representative DNA molecules and routine PCR is used to detect presence of the virus. Sensitivity 98 %, Specificity 99%. RT PCR for SAARS-CoV-2 will become positive even with low viral load and dead viral particles. Hence test may be remain positive in non-infective patients. It has been reported up to 52days from the initial positive PCR in Sri Lanka.

Rapid Antigen Test (RAT)

RAT is more suitable for patients with a high viral load. RAT has the inert disadvantage of false negatives. RAT bears a Sensitivity 56.2% & Specificity 99% (COVID-19, Real Time Learning Network by CDC & IDSA – Updated 18.11.2020)

Symptoms	Coronavirus	Flu	Cold
Fever	Common	Common	Rare
Cough	Common	Common	Mild
Loss of taste and smell	Sudden	Rare	Sometimes
Fatigue	Sometimes	Common	Sometimes
Headaches	Sometimes	Common	Rare
Aches and pains	Sometimes	Common	Common
Runny/stuffy nose	Rare	Sometimes	Common
Sore throat	Sometimes	Sometimes	Common
Sneezing	No	No	Common
Shortness of breath	Sometimes	No	No
Diarrhoea	Sometimes for children	Sometimes, especially for children	No

Source: WHO, CDC



Signs and Symptoms

Most common symptoms:

- fever
- dry cough
- tiredness

Less common symptoms:

- aches and pains
- sore throat
- diarrhoea
- conjunctivitis
- headache
- loss of taste or smell
- a rash on skin, or discolouration of fingers or toes

Serious symptoms:

- difficulty breathing or shortness of breath
- chest pain or pressure
- loss of speech or movement
- Persistent pain or pressure in the chest
- High temperature (above 38 °C)

Quick Guide to COVID-19 Tests

	Rapid Antigen/ Rapid Swab Test	RT-PCR/Swab Test
Test Duration	15 – 30 minutes	15 – 30 minutes
Results out in	1 hour – 1 day	1 – 7 days
Sample Collected	Mucus from nasal tract/throat	Mucus from nasal tract/throat
What the Test Detects	Viral antigen	Virus's genetic material
Best Time to Test	1 – 5 days from onset of symptoms	5 – 7 days after exposure to virus
Positive/reactive results mean	You have an active virus infection	You have an active virus infection
Pros	Positive results usually accurate	Results are highly accurate
Cons	Negative results should be confirmed with an RT-PCR test	Expensive, facilities not widely available

Vaccination

Currently none of the vaccines tested against pregnant mothers and as a result there is no evidence based to recommend Covid-19 vaccination in pregnancy. However, in near future most of the research teams will assess the safety of Covid-19 Vaccination in pregnancy and will make recommendations. Since this is a mRNA based/Killed Viral Vector vaccine, very likely it will be safe in pregnancy. However, at the moment none of the world bodies recommend covid-19 vaccination for pregnant ladies.

Surgical Interventions in COVID-19 positive pregnancies

Basic Principles

- Avoid any surgical interventions until viral load come to Zero or near Zero. i.e at least 10 days after initial diagnosis.
- Take precautions to avoid obstetric emergencies. For example, Obstetrician might consider going for an ERCS instead of going for VBAC in a Covid positive pregnancy.
- Use recommended highest level PPE's. Always use N95 Masks- FFP 2 or 3
- Surgery is always more challenging with PPE's. So do not handover duties to junior level staff.
- Plan the surgical event in advance by senior clinical team.
- Take decisions early because delays are the rule with Covid-19 positive surgical interventions. (Blood cross matching will take 2hrs, Bringing the patient to theatre take around 1-2hrs.)
- Keep a backup if failed. For example, fainting attacks; probably due to hypoxia and hyperthermia among operating team is reported.
- Take necessary precautions to avoid fogging of goggles.
- Better to send to a dedicated center with neonatal and adult Intensive Care facilities.

Pregnancy and COVID-19: Global Situation

- More than 42268 Covid positive pregnancies were analyzed by the CDC USA and quoted that "Pregnant women are more likely to admit to ICU and receive invasive ventilation and ECMO. And Increased of Death compared to non-pregnant women." Maternal death rate among Covid positive pregnancies stood at 130 per 100000 maternities.
- Intensive care admission may be more common in pregnant women with COVID-19 than in non-pregnant women of the same age. Maternal COVID-19 is associated with an approximately three times greater risk of preterm birth. Maternal COVID-19 is also associated with an increased rate of caesarean birth – UKOSS

Sri Lankan Perspective

Experiences of providing maternity care during COVID-19 pandemic

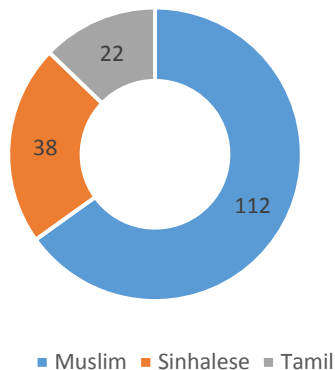
According to the statistics (as at 10th December 2020) collected from Colombo East Base Hospital, A total of 170 infected mothers were reported with no related maternal deaths.

Out of 170 positive mothers, 112(65.11%) were Muslim, 38(22.1%) were Sinhalese and 22(12.8%) were Tamil. 11.6% of the mothers were aged between 17-20, 55.2% were aged between 21-30years, 32.6% were between aged 31-40years and only 0.6% of mothers were over the age of 40years. Considering the Gestational age; 25% were <20Wks, 12.8% were between 20-28wks, 6.4% were between 28-32Wks, 16.3% between 32-36Wks, 18.0% between 36-38Wks and 21.5% between 38-41Wks. Taking into consideration the mode of delivery, 70.5% of the babies were delivered via NVD, 13.6% delivered via Elective LSCS and 15.9% were delivered via Emergency LSCS.

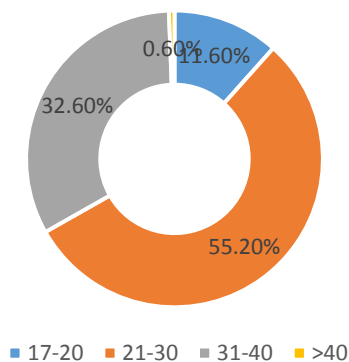
There were a total of 49 cases that were reported as complications. 29% had GDM, 24% had Asthma, 24% had Hypertension, 4% had Hyperthyroidism, G6PD and Thalassemia trait respectively, 6% experienced miscarriage and 2% had abruption and PPH respectively.

Out of the total cases, 165(95.9%) cases were asymptomatic while only 7(4.1%) cases showed signs of mild disease.

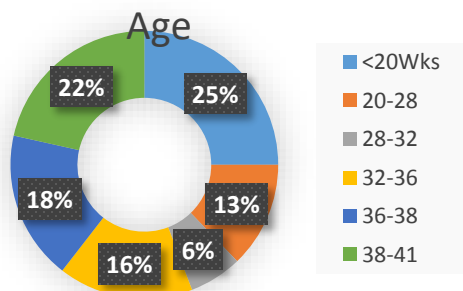
Distribution by Ethnicity



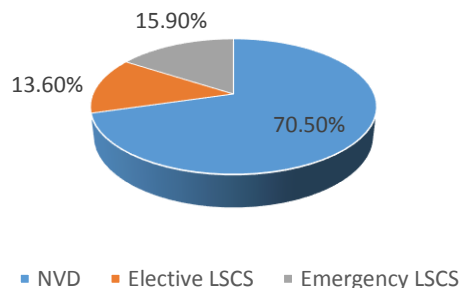
Distribution by Age



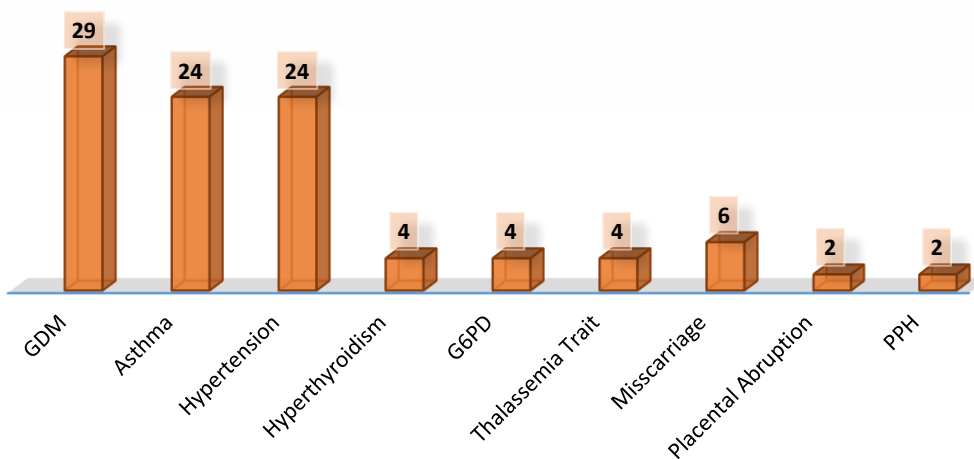
Distribution by Gestational Age



Mode Of Delivery



COMPLICATIONS DETECTED AMONG COVID-19 POSITIVE MOTHERS



Symptoms noted in our patients;

	Fever	Malaise	Rigors	Cough	Dyspnoea	Sore Throat	Diarrhoea	Chest pain
Present	2	1	0	6	1	6	3	0
Absent	170	171	172	166	171	166	169	172

Treatment

- Initially a few patients received Azithromycin and HCQ at Colombo east base hospital. However subsequently none of the patients were treated with Azithromycin, HCQ or antivirals.
- In conclusion, in patients admitted to hospital with severe COVID-19, adding azithromycin to a standard of care (a regimen that included Hydroxychloroquine) did not result in clinical improvement or mortality reduction. These findings do not support the routine use of azithromycin in combination with Hydroxychloroquine for this patient population and can inform clinical practice and guidelines.
- Data show that Remdesivir was superior to placebo in shortening the time to recovery in adults who were hospitalized with Covid-19 and had evidence of less lower respiratory tract infection.
- In patients with severe COVID-19 who required oxygen support, using dexamethasone 6 mg daily for up to 10 days reduced mortality at 28 days. The benefit of dexamethasone was most apparent in hospitalized patients who were mechanically ventilated. There was no observed benefit of dexamethasone in patients who did not require oxygen support.

Given the potential benefit of decreased maternal mortality and the low risk of fetal adverse effects for a short course of dexamethasone therapy, the Panel recommends using dexamethasone in hospitalized pregnant women with COVID-19 who are mechanically ventilated (AIII) or who

- Require supplemental oxygen but who are not mechanically ventilated (BIII).