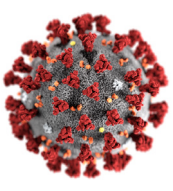
3. Practical Guidelines for maternal health care providers in sub-saharan Africa



NB The information below is taken from a new paper currently **in press** in *The Journal of Maternal-Fetal and Neonatal Medicine* and is provided by the kind permission of the Editor-in-Chief and the Publishers as a special and generous concession because of the urgency in addressing the current COVID-19 epidemic. It is entitled:

MANAGEMENT OF COVID-19: A PRACTICAL GUIDELINE FOR MATERNAL AND NEWBORN HEALTH CARE PROVIDERS IN SUB-SAHARAN AFRICA

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GENERAL GUIDELINES IN THE MANAGEMENT OF OBSTETRIC PATIENTS TO REDUCE THE RISK OF TRANSMISSION OF / EXPOSURE TO COVID-19

Obstetric clinics:

- Scale down on antenatal care (ANC) visits by adapting the initial WHO focused ANC of 4 visits (<16 weeks, 28-, 32- and 38- weeks visit) and modifying as appropriate e.g. weekly visits from 36 weeks. This will be for low-risk patients.
- Overcrowding in the antenatal clinics should be avoided by making sure the patients' appointments are spaced out.
- During consultations, health officials should keep a safe distance from the patients and between Patients.
- Application of universal precautions for all infectious diseases should be observed at any point in time when health workers come close to patients.
- Before and after each consultation all health personnel should practice hand washing with soap or use of hand sanitizers.
- While screening patients in the antenatal clinic, pertinent questions like a history of recent travel or return from high-risk countries, presence of symptoms (fever, cough, shortness of breath among others) should be asked. In the presence of reasonable risk factors or suspicion, further evaluation should be done in a separate designated area of the clinic to prevent exposure of other screened patients.
- Medical consultations and advice over the telephone should be instituted for non- emergencies to prevent unnecessary hospital visits.
- Any patient with serious complaints should present as an emergency to the accident and emergency, regardless of their gestational age or booking status. This is so that they can be triaged appropriately.
- Elective Cesarean sections and cervical cerclage to continue with the support and commitment from the Department of Anesthesia and the Neonatology Unit.

Flow of patients: All patients (booked or unbooked) will be screened at the Accident and Emergency (A&E) by the triage team before being directed to their respective destination (A&E, Clinic or Labor ward) depending on the results of their screening. Patients should also be screened at the point of entry into the clinics and the Labor Ward in order not to miss cases.

A/E. Triage: The A/E triage staff should call the Infectious Disease Unit (IDU) for any patient with suspicious symptoms or contact positive responses, whilst still at triage. This screening and triage include infants that present at the Children Emergency Centers.

Labor wards:

- There should be a screening table at the entrance to the labor ward to detect suspicious cases if patients come directly to the labor ward as opposed to the Accident and Emergency department (which is recommended).
- Patients with suspicious symptoms or positive answer to screening (contact) questions should be escorted into the labor ward from the entrance by staff wearing appropriate Personal Protective Equipment (PPE). The patient should be provided with a surgical face mask (not a filtering facepiece level 3 (FFP3) mask).
- The face mask should not be removed until the woman is isolated in a designated room or bay suitable for all necessary care during her hospital visit or stay.
- Once the patient is secured in the isolation room, IDU team should be invited for urgent review.
- Isolation rooms or ward bays should ideally have a defined area for staff to put on and remove PPE with available ensuite bathroom facilities.
- Only the managing team should enter the bay with visitors kept to a minimum.
- All non-essential items should be removed from the room before the arrival of the woman.
- All clinical areas used should be cleaned after use as per health protection guidance.
- As obstetric patients are peculiar and cannot be managed in the current designated state isolation centers (Biosecurity facilities), they have to be managed in the designated labor room for COVID-19 patients and the designated theatres of the hospitals as appropriate.
- The minimum PPE to attend to any suspected or confirmed COVID-19 patient should consist of a full water-resistant disposable gown, sterile gloves and surgical masks with visors for labor cases; and for any surgeries, the above-elbow length gloves, N-95 face masks and surgical eye shields will be required. Not all of these items will be required for each patient. However, they should be available as labor can end up as anemergency caesarean section at any time and also if one set becomes damaged and another is needed.

OBSTETRIC MANAGEMENT OF SUSPECTED AND CONFIRMED COVID-19 PATIENTS

Suspected and Confirmed COVID-19 Patients

1. Obstetric cases should be managed by the most senior doctor on duty, and the most senior midwife. According to the guideline on COVID-19 released by the Society of Gynecology and Obstetrics of Nigeria [16], there is no need to interfere with labor or the management of pregnant women in labor and the puerperium. Infectious Disease Unit (IDU) or the designated response team in each hospital should be notified as soon as the patient is admitted.
2. The hospital questionnaire for case identification should be utilized for all patients. Once marked as high risk, the patient will be admitted into the designated room for suspected cases.
3. All those caring for suspected cases should wear full PPE and care for the patient continuously. The patient should be nursed in the appropriate nursing bay in labor ward if in labor. If not in labor but pregnant, to stay in triage while Consultant is called and makes a decision to send home or stay after discussing with IDU.
4. If the patient stays, to be nursed in isolation bay until delivery. As much as possible, suspicious patients that are not in labor should be managed as an outpatient if possible. Consultant should make the decision following confirmatory tests of such patients with a negative result.
5. If the patient is confirmed to have COVID-19, they will be moved to a separate designated ward. If found to be negative, they will go to the main ward.
6. Elective and emergency Caesarean Sections will continue as scheduled and must be done with full PPE as above, plus N95 face masks.
7. Mothers (and their babies), if confirmed to be positive for COVID-19, will be discharged to a separate designated ward (as above) as soon as possible after delivery.
8. It should be noted that pregnant women with an isolated fever should be investigated and treated according to the unit protocol while maintaining safety precautions. Part of the treatment will include a full blood count. If lymphopenia is identified on the full blood count, testing for COVID-19 should be arranged.
9. All residents will work in shifts as rostered. Any exposed doctor or nurse should call the IDU team for advice.

GUIDELINES FOR COVID-19 NEWBORN CARE AND MANAGEMENT

Delivery room preparation and precautions

- *Universal precautions should be practiced at ALL times.*
- When consult for delivery is received for an infected or suspected COVID-19 woman, the most senior person on duty should notify the whole unit including the Consultants. All health workers that attend any delivery must wear the minimum protective gadgets (PPE). Minimum PPE includes: a mask (N95 preferably), hand gloves, eye protection and a gown. All parts of the body must be covered.
- BE CAREFUL NOT TO CONTAMINATE YOURSELF AND THE SURROUNDINGS WITH INFECTED SECRETIONS.

Delivery room care and resuscitation

1. LIMIT NUMBER OF PEOPLE IN THE DELIVERY ROOM TO THE BAREST MINIMUM TO AVOID UNDUE EXPOSURE.
2. Routine delivery room care should be provided for the infants at birth as usual: dry, stimulate and keep warm with mother and commence breastfeeding as soon as possible.
3. Routine newborn care should be carried out.
4. Routine neonatal resuscitation should be undertaken when indicated.
5. Suction only when necessary.
6. Intubations should be with utmost caution and by the most senior person at the delivery. Several attempts at intubation is discouraged.
7. **Remember suctioning, manual ventilation, intubation, non-invasive positive-pressure ventilation, cardiopulmonary resuscitation, connecting/disconnecting a patient to or from a ventilator can ALL result in aerolization.**

Newborns presenting at the Children Emergency Center

- Outborn babies referred to the facility usually present at the Children Emergency Center.
- The screening questionnaire employed by the adult A&E should be used to screen the mother. If the mother did not accompany the infant from the referral hospital (which is usually the case), efforts should be made to gather as much information as possible on the mother's condition.
- Practice universal precautions at all times.
- Suspected COVID-19 exposed infants should be admitted in the designated COVID-19 ward and the Infectious Disease Unit notified. Subsequent management should be as per unit protocol for the particular neonatal condition.

Lying-in wards

Apparently healthy babies ≥34 weeks gestation should be nursed with the mother and both can be transferred to the Infectious Disease Hospital or the designated ward. Co-location of mother and infant is advocated if the mother shows no symptoms to minimize strain on resources and also to ensure mother and child bonding and adequate breastfeeding. Mother should wear a mask around the infant and perform hand hygiene before carrying or feeding the baby.

Neonates requiring NICU admission

Newborns <34 weeks gestation or <1500g should be nursed in an incubator (in a previously designated place in the hospital). All exposed infants to COVID-19 requiring admission should be admitted into the designated isolation ward. Babies with confirmed infection should be transferred and nursed in a separate designated ward. Subsequent care should be provided for all infants as per unit protocol for the particular neonatal condition. Healthcare worker interaction should be under full PPE and must follow the hospital's policy on COVID-19. Minimal number of staff should be allowed in the isolation ward and all must be in full PPE at all times.

Referred Babies

Outborn babies referred to the hospital who were exposed and suspected or confirmed to have COVID-19 will be managed in the same isolation ward as the inborn babies.

They should also have similar management protocol. Infants who were already in the normal newborn wards before they or their mothers were suspected of having COVID should promptly be transferred to the isolation ward to continue clinical management.

Newborn nutrition and COVID-19

There is currently no evidence that COVID-19 can be transmitted through breast milk, therefore, there is no justification to deny both mother and baby the benefits of breastfeeding, if there are no other contraindications to breastfeeding. The practice to support, promote and protect breastfeeding will continue until there is enough evidence to advise otherwise. Cases should be individualized. Asymptomatic mothers and those with mild symptoms can breastfeed. Mothers must observe hand hygiene with soap and water or alcohol hand rub before touching the baby and must wear a mask while breastfeeding. Frequency of direct breastfeeding should be reduced to one to two times daily and other feeds should be expressed breast milk (EBM) fed by cup. This is to limit contact and improve lactation. Mothers should maintain appropriate social distancing when not caring for the baby. Infants of critically ill mothers should receive an appropriate infant formula.