International Journal of Nursing and Health Research
www.nursingjournal.in
Online ISSN: 2664-6420, Print ISSN: 2664-6412
Received: 18-06-2021, Accepted: 03-07-2021, Published: 20-07-2021
Volume 3, Issue 1, 2021, Page No. 04-08

Health care measures, ethical policies procedure & protection of health careworker for Covid 19-delivery

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Abstract
The COVID -19 outbreaks leads to unpredicted needs on our health system. Our health facilities and work force are currently involved in huge activities related to controlling this pandemic. For this risk those essential health workers and their communities expect a good health system. It is likely that health seekers should follow social distance in the community and the hospital to avoid infection of health workers, also to minimize an increase in morbidity and mortality from other health condition. Particular attention must be given to the delivery of essential health care workers, pregnant mothers and infants while ensuring their safety. Essential services like maternal, new born and health team workers, prevention and management of communicable diseases and to avoid complications and promotion activities like screening programs, campaigning, hand wash technique etc;.

Keywords: health care workers, labor, delivery and SARS covid 19

Introduction

An epidemic is situation when an infectious disease spreads quickly to more people. It usually affects a larger area. A pandemic is a disease outbreak that spreads across countries or continents. It affects more people and takes more lives than an epidemic. The World Health Organization (WHO) declared COVID-19 to be a pandemic when the illness became severe and it was spreading quickly over different countries.

Covid Corona virus disease (COVID-19) is an infectious disease caused by a newly discovered corona virus. Most people infected with the COVID-19 virus will experience mild to moderate respiratory illness and recover without requiring special treatment**.** Geriatrics people and those with chronic illness are most vulnerable to this virus. The best way of preventing the spreading is to be well informed about the COVID-19 virus, its causes and how it spreads. Protect yourself and others from infection by washing your hands or using an alcohol based rub frequently and not touching your face. The COVID-19 virus is a communicable disease. It spreads easily through droplets of saliva while coughing or sneezing. So it's important to cough in a flexed elbow. This is known as respiratory etiquette.

Background Study

Trevisanuto *et al* [1] have pointed out many useful and practical points for the prevention of cross-infection, and thus, provide an important platform for individual obstetric and neonatal units to adapt their self-care measures to accommodate their individual needs. In 2003, SARS gave Hong Kong and many Asian countries a painful but invaluable lesson [2, 3]. Since then, simulation drills of life-threatening infectious diseases (e.g., SARS and Ebola) have been regularly conducted in most tertiary medical institutions. (April 13, 2020), Hong Kong has 1,010 confirmed cases of COVID-19 and 4 deaths [2, 3]. Over 58% were imported cases associated with travelers and students who had already contracted the corona virus overseas. Despite the critical situation in Italy**,** Trevisanuto et [1] all have done an outstanding job by summarizing key self-care measures against COVID-19 in this issue of Neonatology.

Purpose of Study

1. To minimize the utilization of clean equipment used for SARS-COV and SARS-COV-2 patients who are coming for delivery
2. To minimize the exhibition and protection of health team works who attend the SARS-COV and SARS-COV-2 mothers and infants
3. To promote proper disposal of maternal and medical waste of SARS–COV and SARS-COV-2 patient to prevent the spreading of infection.

Labor

Labor is a physiologic process, during which the fetus, membranes, umbilical cord and placenta are expelled from the uterus, there are four stages of Labor:-

- First stage of labor- Thinning effacement and dilatation of the cervix (0-10cm).
- Second stage of labor- Baby moves through the birth canal (10cm to birth).
- Third stage of labor- After birth of baby to birth of placenta.
- Fourth stage of labor- Recovery and care of mother (birth of placenta to four hours postpartum).

Here there are policies to limit the number of visitors and for the benefit of individual patients, health team, and labor and delivery

units, to reduce the spreading of covid-19.

Visitor Policies: -Many hospitals have implemented a policy of 1 adult visitor for each patient in labor and delivery units. As recommended by the Centers for Disease Control and Prevention and the American College of Obstetricians and Gynecologists, this visitor should be afebrile and screened for symptoms prior to entry [4, 5]. Other hospital systems have further limitations based on geography (no visitors from the New York City area) or patient location (visitors are not permitted to postpartum units). In an attempt to reduce exposures, several hospital systems in the New York City area announced policies prohibiting all visitors to labor and delivery and postpartum units.[6]According to hospital ethics and policies spreading of infection excluding labor and delivery units from visitor prohibition. As noted by the World Health Organization, continuous companionship during labor is recommended for all pregnant women to potentially improve labor outcomes, [7] to improve the rates of vaginal delivery and breastfeeding [8, 9]. Pregnant women who are considered persons under investigation or those have tested positive for SARS-CoV-2. Visitors permitted entry to labor and delivery units will either be negative or positive but asymptomatic must be given visitor screening guidelines. In the case of visitor, a surgical mask would not offer the same level of protection to the visitor as the N95 mask recommended to health care professionals, nor can the hospital system be responsible for conducting visitor fit testing [10].

There is risk that the visitor of the pregnant patient could also be SARS-CoV-2 positive though asymptomatic due to high rate of infectivity. Some infants will be exposed to the visitor, especially if they are the pregnant patient's partner. Guidelines to physical distance infants, especially if both the patient and visitor are SARS-CoV-2 positive, lack the provisions to isolate themselves from the newborn for 14 days. Furthermore, risk of harm to bonding and breastfeeding initiation exists [11]. The risk to other patients and health care staff can be reduced by requesting the visitor not leave the patient'. A person either positive status or under investigation, the limited health care staff inside the patient room should be protected by appropriate personal protective equipment (PPE). If PPE is unavailable, visitors should not be permitted, because there is an increased risk of spreading the infection.

1. Policy Development 1: To ensures visitor policies are enforced in terms of limiting visitors to 1 healthy person.
2. Prohibiting reentry,
3. Ensuring isolation to the room of a visitor who is or may be infected
4. To minimize room transfers, provision of food for visitors.
5. PPE may also vary between hospitals. An individual hospital's ability to conduct universal. SARS-CoV-2 testing for patients to visitor policies.

Care of Intrapartum

- An Isolation room, a full maternal and fetal assessment should be conducted,
- Assess the severity of COVID-19 symptoms,
- Delivery preferably at tertiary care centre.
- Maternal observations including vital signs, respiratory rate & oxygen saturations.
- Monitor the onset of labor.

Covid -19- infection - admitted for delivery

Susan Mayor Nearly 90% of pregnant women admitted to hospital for delivery who test positive for SARS-CoV-2 have no symptoms of the infection, a small study has found [12].Researchers led by Dena Goffman at Columbia University Irving Medical Center in New York, USA, tested all 215 pregnant women admitted to two New York City hospitals in 2020 for symptoms of covid-19 and for infection with SARS-CoV-2. The results, reported in a letter to the New England Journal of Medicine [12] showed that four women (1.9%) had fever or other symptoms of covid-19 on admission and tested positive for SARS-CoV-2.On admission, swabs from 210 of the 211 women with no symptoms were tested, and 29 cases (13.7%) were positive for SARS-CoV-2. This means that 29 of the 33 women (87.9%) who tested positive for the virus had no symptoms of covid-19 when admitted to hospital for delivery.

On 1 April small, unpublished analysis of data from the National Health Commission in China claimed that 130 of 166 new infections (78%) identified in 24 hours were asymptomatic [13]. However, it was not clear how these cases were identified. And an unpublished Italian study, in which all 3300 people living in the isolated village of the northern Italy were tested, claimed that about half of the 90 people who tested positive for SARS-CoV-2 had no symptoms [14]. In contrast, a report by the World Health Organization on covid-19 in China from February [15] found that "the proportion of truly asymptomatic infections is unclear but appears to be relatively rare and does not appear to be a major driver of transmission." That report concluded, "The majority of the similar rare cases who are asymptomatic on the day of identification went on to spread disease."

Care in Labor

- To keep oxygen saturation >94%,
- Active COVID-19 is a cause for sepsis and investigates according to guidance.
- Continuous electronic fetal monitoring
- There is no evidence that epidural or spinal analgesia or anesthesia is contraindicated in the presence of corona viruses. Epidural analgesia should therefore be recommended in labor to women with suspected/confirmed COVID-19
- To minimize the need for general anesthesia if urgent delivery is needed.

  An individual assessment regarding the risks and benefits of continuing the labor, versus emergency caesarean can resuscitate the mother.
- When caesarean birth or other operative procedure, advised to wearing PPE

Covid-19-Management of a delivery Room

Since the first report of the new corona virus (COVID-19) infection in December of 2019, it has become rapidly prevalent and been declared as a Public Health Emergency of International Concern by the World Health Organization. There are quite a few cases reported involving delivery with COVID-19 prevented rapid increase in adverse pregnancy outcomes and nosocomial infection in departments of obstetrics and neonatology during the pandemic of COVID-19.to quickly identify high-risk groups and to provide appropriate protection for childbirth and the

puerperium to, comprehensive and continuous training of all staff, based on the particular epidemic prevention and, improve staff's awareness of the prevention and control of COVID-19. To strengthen staff comprehension of the necessary precautions during a COVID-19 epidemic, an assessment of delivery room management [16, 17] we recommend a delivery room processing list and protection [18] for pregnant women with different infection risks, as detailed below;

Protective articles for health workers/mother & infant

- Respiratory protection
- Triple layered surgical mask.
- N95 facemasks.
- These are needed when performing an aerosol-generating procedure or in an area where neonates are being provided respiratory support by CPAP device/ventilator.
- Eye protection
- Goggles (will not be usable by those using vision glasses) or face shield. Body protection
- Long-sleeved water-resistant complete gown including head and shoe cover.
- A single piece head to toe water resistant body cover will be ideal for attending resuscitation in delivery room or OT
- Hand sanitizer
- Well-fitting gloves
- Disposable work cap
- Medical surgical mask
- Medical protective mask
- Protective goggle/face shield
- Positive pressure breathing hood
- Scrubs
- Disposable protective suit
- Disposable latex gloves
- Disposable protective shoes cover
- Hand hygiene

(I)History Collection

(1)The use of TOCC (Travel, Occupation, Contact and Cluster) [1] history plus clinical features of respiratory and gastrointestinal symptoms could assist in the initial risk-

Stratified surveillance process. Any positive history of the above indicates 'potential risk' status (2) Screening tests, blood routine tests, and C-reactive protein. New corona virus nucleic acid test (3.). A chest CT scan should be performed to observe the lungs if signs or symptoms provide any indication (inform the patients about the necessity of chest CT and ask them to cover their abdomen properly) (.4) Obstetric management should not be delayed by testing for COVID-19.

(II) Delivery room management (for vaginal delivery): 1) Pregnant women immediately transferred to an isolated delivery room (avoiding contact with other patients) or negative pressure delivery room and be required to wear surgical mask [19]. Accompanying family must not be permitted.2) Patients should be managed by specific experienced Medical specialists, and to avoid cross-infection;3) As fetal compromise is relatively common in pregnancies complicated by COVID-19 infection, continuous electronic fetal monitoring in labor is recommended for all women suspected with COVID-19, following transfer to the appropriate delivery room [20]. 4) Attempts to deliver vaginally recommend caution regarding procedures such as episiotomy and ventouse/forceps delivery.

(III)Emergency Caesarean Section Treatment

Suspected COVID-19 infection, Multi-disciplinary consultation involving anesthetists, neonatologists, obstetricians, and infectious disease physicians is required before deciding to deliver prematurely in cases of suspected infection, and if caesarean section is indicated, the procedure should be performed in a negative pressure isolation operating room. Based on the patient's respiratory function, the choice of anesthetic mode is determined by the anesthetist

(IV) Postpartum Management (1)

Postpartum vital signs, uterine contractions, maternal mental health and other conditions of the mother should be monitored, and attention paid to the prevention of postpartum hemorrhage, thrombosis,.(2) For pregnant women with suspected infection, to isolate the newborn [20]. 14 days of isolation for newborns is recommended [21]; (3) there is currently no evidence to support the suspension of breastfeeding in pregnant women with suspected infection, indeed, we advocate breastfeeding, as the wider benefits outweigh the potential risks of transmission through breast milk [20]. (4) Pregnant woman with suspected or potential infection should undergo diagnostic testing immediately. If infection is confirmed, the corresponding management should follow the previous guidelines for dealing with confirmed cases of COVID-19 [2]. (5) Daily video clips of infants' activities could be sent to parents to enhance mother-baby bonding be recommended [11]. Since the setup

(V) After-Delivery Protection Procedures

After the mother was transferred to the ward, routine cleaning should be undertaken. The surfaces of the equipment (including the obstetric table, ultrasound machine, and neonatal warm bed) in the isolation delivery room and the negative-pressure delivery room need to be wiped and disinfected immediately, preferably with 1000 mg/L chlorine-containing disinfectant; 75 % ethanol can be used for the non-corrosion resistance instruments [20, 22]

Spraying is not a recommended method of disinfecting the equipment. Dedicated cleaning tools are required to avoid cross contamination. The inspection room should be disinfected with ultraviolet light, ≥60 min each time, once or twice a day, with at least 30 min ventilation after irradiation. The ultrasound probe should be protected with a dark cloth during the irradiation. The room should be vacated when ultraviolet lamps are used.

(7) Protection of Healthcare Workers

Members of the healthcare team are confirmed to be cross-infected

1. The corona virus would be spread via droplets or through direct contact with fomites (e.g., use of nebulizer, vapor/aero-sol-generating procedures during surgery or use of pressurized gas treatment). Proper protection with appropriate personal protective equipment would be mandatory during these procedures.
2. The "gown-up" and "gown-down" areas must be separated to avoid contamination of equipment. The sequence of

gowning-up (i.e., shoe covers → hand-washing →N95 respirator → goggle or visor → cap → waterproof gown → hand rub with 70% alcohol antiseptic agent → latex gloves;
3. Gowning-down (i.e., cap →gown → shoe covers → gloves → hand washing → goggle or visor → N95 respirator → hand rub → new surgical mask)
4. HCWs and could space out the frequency of staff rotation AND required to be quarantined,
5. Altering infusion setting of drugs. However, we would not advocate routine periodic RT-PCR testing of asymptomatic HCWs with protected exposure at this stage [11],

(8) Medical waste disposal

Protective supplies used by medical personnel and all patient waste should be regarded as infectious medical waste, which requires double-layer sealing, clear labeling, and airtight transport [23].

If testing of the placenta and/or amniotic fluid is required, strict sampling and sealing should be carried out to avoid contamination of the surface of the container and the spread of infection. The surface of the container should be disinfected before sample inspection to further avoid infection of any personnel.

Conclusion

My experience with COVID-19 suggests that we are in an invisible deadly battle. We must strictly follow the policy and procedure from the hospital, avoid gathering, maintain social distance and regular hand wash, follow a healthy diet and do some exercise and yoga. Frontline workers are the soldiers. As the number of patients increases their work load increases. They are losing their mental and physical stamina. There is no strong evidence that the COVID wave has come to an end. We make shelter belts and save our nation from the deadly tsunami of COVID-19.

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