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Get your obstetric inpatient and outpatient units ready for COVID-19

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Running head: Be ready for COVID-19

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Coronaviruses (CoVs) are the largest group of viruses belonging to the Nidovirales order. They are enveloped, non-segmented positive-sense RNA viruses.[1] The Novel Coronavirus (2019-nCoV), also known as Wuhan coronavirus, causes the 2019-nCoV acute respiratory disease. The initial cases of 2019-nCoV occurred in Wuahn, China in December 2019.[2] 2019-nCoV spreads in a similar way to flu: people can catch 2019-nCoV by touching contaminated surfaces and then touching eyes, nose or mouth, as well as standing near by an affected person. Therefore, it is important for healthcare providers and for Directors to get their unit ready for 2019-nCoV arrival.

Simple ways to prevent the spread of 2019-nCoV include wiping regularly with disinfectant surfaces, such as desks and tables, and objects, including ultrasound and cardiotocography probes. It is also mandatory to promote regular hand-washing to providers and sonographer. Therefore it is important to put sanitizing hand rub dispensers among outpatients clinics and labor ward.

A wise suggestion is also to avoid organization of meetings and congress. People attending meetings might be unwittingly bringing the virus to the meeting. Consider carefully is your face-to-face meeting is really necessary and cannot be postpone or replaced by an online event.

Other than these general suggestions, healthcare providers have to face several problems in both outpatient and inpatient setting.

My personal recommendations for outpatient settings are:

- Limit the scheduled visit
    - Avoid unnecessary visits and unnecessary ultrasound scans or nonstress tests.[3]
    - You can triage your scheduled appointment the day before by phone and ask for any signs or symptoms. Postpone at risk women with fever or cough. If the visit cannot be postpone please ask to the patient to wear a surgical mask while in the clinic
- Avoid visitors

- Ask all scheduled patients to come without any visitor, or limit to maximum one.[4]

- Avoid students
  - In my institution, medical students are no longer permitted to stay in the clinics.

- Correct use of mask for patients and visitors
  - Surgical mask may avoid spread of droplets of infected fluid and help to limit the infection. However, given the limited resource giving a surgical mask to all patients and visitors may not be feasible in some settings. A reasonable alternative is that patients and visitors wear surgical mask only if symptomatic.

- Correct use of mask for providers
  - The WHO provided well written recommendations on rational use of personal protective equipment (available at https://apps.who.int/iris/bitstream/handle/10665/331215/WHO-2019-nCov-IPCPPE_use-2020.1-eng.pdf). According to the WHO, if you are healthy, you only need to wear a mask if you are taking care of a person with suspected 2019-nCoV infection. Notably, surgical mask are loose fitting designed for one way protection, to capture bodily fluid leaving the wearer. Contrary to belief, masks are not designed to protect the wearer, while respirators are designed for two way protection, by filtering the air breathed in. The most commonly discussed respirator type is N95, while in Europe we use a filtering face piece (FFP) score being the filter capacity from 80% (FFP1) to 99.9% (FFP3), with FFP2 filtering the 94% of all particles that are 0.3 microns in diameter or larger. The closest European equivalent to N95 is an FFP2 rated respirator (94% compared to the 95% of N95). In my institution all patients with confirmed 2019-nCoV infection are visited with FFP2 while FFP3 are weared by the providers during the delivery. It is very important also to removed

properly and disposed of safely all equipment. All Directors should provide instructions, including video materials, on how correctly wear, remove, and dispose equipment in their institutions. There is compelling evidence that universal mask-wearing is the most overlooked 2019-nCoV lifesaver!

Organization of the triage and of the labor ward is also concering.[4] A infected patient can spread the infection to the providers, including doctors, and nurses, but also cleaners, visitors, and other patients. Theoretically we should keep separately women with 2019-nCoV from other patients. But it is in fact very difficult. Diagnostic tests may take hours, and you may need to take care of the patient before the results or even before you can assess for symptoms or fever, e.g. laboring or bleeding women.

My personal recommendations for inpatient and labor ward are:

- At the time of triage ask for signs and symptoms and check temperature.
- All women with suspected 2019-nCoV should be then triaged in a different room and you may ask for oropharyngeal swab, if necessary. All suspected patients admitted for inpatient admission should receive oropharyngeal swab for 2019- nCoV testing.
- If feasible all women with confirmed 2019-nCoV should be admitted in a dedicated ward

2019-nCoV outbreak is spreading in all the countries, including the United States. In the next months data on 2019- nCoV in pregnancy will be more robust,[5] and guidelines may be more evidence-based.[3,4] In the meanwhile, healthcare providers should be aware of the infection and prepare internal guidelines covering all aspect of the organization in order to have their obstetric inpatient and outpatient units ready as soon as possible.[6] We recently provided MFM and labor and delivery guidelines to help in this.[3,4]

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