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**(For April 11 and 12)**

**UPDATE ON GLOBAL AND REGIONAL DEVELOPMENTS ON COVID-19**

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## Summary

- As of the morning of 12<sup>th</sup> April, 1,784,335 COVID-19 cases, 108,962 deaths and 405,043 recoveries were reported worldwide.
- USA accounted for 29.9 % of the total cases in the world with 533,115 people being infected with the virus and having the highest number of deaths (20,580).
- In Africa, a total number of 13,676 confirmed cases, 744 deaths, and 2,283 recoveries were reported, with South Africa having the highest number of cases (2,028).
- Concerns are being raised about the reliability of currently available antibody-based COVID-19 diagnostic tests.
- Even though the currently available antibody tests are not 100% reliable, the US CDC announced, on 10th April, that it would begin using antibody tests to see what proportion of the population has already been infected.
- According to BMJ best practice recommendation, empirical antimicrobial treatment should be administered as per local protocols to cover bacterial pathogens possibly causing respiratory infections.
- Experts from China, Zhongnan district, indicated that the successful control measures by the Chinese and South Korean response to the pandemic is mostly attributed to the scale, centralized coordination and timing of the interventions.
- The main source of anxiety and stress for health professionals were reported to be: availability of PPE, not having quick access to testing for themselves, competency about the type of care they are going to provide and access to recent information.

## Recommendations

- Although the gold standard approach, PCR-based diagnosis may still miss significant minority of cases. Thus, diagnosis need to be based not just on the diagnostic tests, but also on patients' symptoms, history of exposure and other laboratory works.
- Use empirical antimicrobial treatment to cover other potential bacterial pathogens that may cause of respiratory infection based on local protocol
- If sepsis suspected, treatment should begin within 1 hours of initial patient assessment
- Wearing face cover in public places should be considered as a symbol of our unified action against this common threat
- Continue timely testing, contact tracing and isolation

- Even if test negative, those with exposure history need to be isolated for 14 days
- Strengthening the resilience of health professionals is of strategic importance.
- Similarly, addressing the practical concerns of health professionals is very important.

## Update on Epidemiology (Incidence, mortality, recovery & epidemiologic parameters)

### *Global*

- As of April 12, 9:00 GMT, there are 1,784,335 COVID-19 cases, 108,962 deaths and 405,043 recoveries worldwide.
- According to worldometer, a total of 80,961 new cases and 6,092 new deaths were reported in the previous 24 hours, which is slightly lower than reported before that (94,629 new cases and 6,973 deaths).
- More than half a million people (533,115) are infected with the virus in the United States of America (USA) which accounted for 29.9 % of the total cases in the world.
- Within a single day, a total of 30,003 new cases and 1,830 new deaths were reported in the country on April 11, 2020.
- One third [181,144 (33.9%)] of the total cases in the USA were reported from New York state, which is even higher than all cases reported in other most affected countries.
- Next to USA, Spain 163,027 (9.14%), Italy 152,271 (8.5%), France 129,654 (7.3%) and Germany 125,452 (7.0%) continue to be the five most affected countries worldwide.
- USA also becomes the first leading country in the number of deaths globally (n=20,580) followed by Italy (19,468), Spain (16,606), France (13,832) and United Kingdom (9,875).

### *Africa*

- According to Africa CDC, a total of 13,676 confirmed cases, 744 deaths, and 2,283 recoveries were reported as of April 12, 2:00 PM EAT.
- Currently, 52 member states have reported corona cases and the virus is highly spreading in those countries. Dr. John Nkengasong, director of Africa CDC stated that COVID-19 poses an existential threat for African countries. He also reflected his concern as the situation might be catastrophic due to shortage of screening kits and lack of medical supplies.

- South Africa remains the first leading country with a total of 2,028 cases and 25 deaths followed by Egypt (1,939), Algeria (1,825), Morocco (1,545) and Cameroon (820).
- The overall Case Fatality Rate (CFR) in the continent is 5.4 % and the highest reported in Algeria (n=275; 15%), followed by Egypt (n=146; 7.5%), Morocco (n=111; 7.2%), and Tunisia (n=28; 4.0%). The CFR in Southern Africa remains low but is increasing steadily (from ~0.5% during the first 1000 cases to 1.2% as of 12th April).
- Three quarters of the total deaths reported in the continent occurred in Algeria, Egypt, Morocco and Tunisia.

### *Ethiopia*

- In the past two days, Ethiopian Public Health Institute conducted 1,073 additional laboratory tests and fifteen of them confirmed to be positive for COVID-19 raising the total number of cases to 71.
- Out of the total additional cases, majority of them came from Dubai and they were staying in the mandatory quarantine before confirming the test.
- So far, a total of 3,863 laboratory tests were conducted and 71 confirmed cases, 3 deaths and 10 recoveries have been reported as of April 12, 2:00 PM EAT.
- The ministry of health also stated that all of the active cases are having mild form of the disease and they are receiving medical care in the designated treatment centre.

### Update on Diagnosis

- According to FIND diagnostics, as of 12th April 2020 [10:20am, East Africa time], there are 203 molecular assay tests commercialized and 40 tests under development for COVID-19. Also there are, 189 immunoassay tests commercialized and 46 tests under development (FIND, 2020).
- Although COVID-19 tests are currently widely available, there is a concern that they are not fully reliable. The major test that is being used now is PCR, which detects traces of the coronavirus in mucus samples. However, experts are saying many things impact whether the test detects the virus. An infectious diseases specialist at Mayo Clinic in Minnesota reportedly stated that "it depends on how much virus the person is shedding (through sneezing, coughing and other bodily functions), how the test was collected and whether it was done appropriately by someone used to collecting these swabs, and then how long it sat in transport". The expert noted even if it were possible to increase the sensitivity to 90 percent, the magnitude of risk remains substantial as the number of people tested grows indicating it is critical for clinicians

to base their diagnosis on more than just the test and also that patient's symptoms, their potential exposure history, imaging and other lab work should be examined (Aljazeera, 2020).

- Locating the virus is one of the problems mentioned as its area of highest concentration shifts within the body. The main nasal swab tests examine the nasopharynx, which requires a trained hand to perform and some portion of the false negatives arises from improper procedures. But even if done correctly, the swab may produce a negative since the disease progresses, the virus passes from the upper to the lower respiratory system. In these cases, the patient may be asked to try to cough up sputum - mucus from the lower lungs - or doctors may need to take a sample more invasively when a patient is under sedation (Aljazeera, 2020).
- Antibody tests are more effective at detecting the presence of antibody responses across large numbers of people, not just to determine who is immune but how widely the virus has spread in the population. Even though the currently available antibody tests are not 100 percent reliable, the US CDC announced, on 10th April, that it would begin using antibody tests to see what proportion of the population has already been infected. Dr. Anthony S. Fauci, the leading infectious disease expert in the U.S, reportedly said within a period of a week or so, they are going to have a rather large number of tests that are available. He said the White House coronavirus task force was discussing the idea of "certificates of immunity," which could be issued to people who had previously been infected. He noted that it is very important to understand how much that virus has penetrated society and that immunity certificates had "some merit under certain circumstances" (Mandavilli and Thomas, 2020).
- The National Institute of Health has already started recruiting to determine how many adults in the United States without a confirmed history of infection with SARS-CoV-2 have antibodies to the virus. In this study blood samples will be collected and analysed from as many as 10,000 volunteers to provide critical data for epidemiological models (NIH, 2020).

## Update on Treatment

### ***Empirical Anti-microbial treatment for patients with COVID 19***

- BMJ best practice recommended the use of empirical anti-microbial treatment to cover other potential bacterial pathogens that may cause respiratory infection in COVID-19 patients. Antimicrobials should be administered according to local protocols. For those, suspected with Sepsis, treatment should be administered within

1 hour of initial patient assessment. Choice of empirical antimicrobials should be based on the clinical diagnosis, and local epidemiology and susceptibility data. Consider treatment with a neuraminidase inhibitor until influenza is ruled out. De-escalate empirical therapy based on microbiology results and clinical judgement. Some patients with severe illness may require continued antimicrobial therapy once COVID-19 has been confirmed depending on the clinical circumstances (BMJ Best Practice, 2020).

- Alberta Health services also recommend the administration of antimicrobials for adult patients who are admitted to the hospital pending confirmation of COVID-19 or an associated bacterial infection. According to their recommendation, for patients who are pending confirmation COVID-19 positive or bacterial culture negative (Alberta Health Services, 2020);
- Ceftriaxone (1 g (2 g if > 100 kg) IV daily x 3 days) with either Azithromycin (500 mg IV daily x 3 days) OR Doxycycline (200 mg PO then 100 mg PO BID x 3 days).
- If history of Methicillin-resistant Staphylococcus aureus (MRSA) colonization or high suspicion for MRSA, add: Vancomycin (25-30 mg/kg IV load (round to nearest 250mg; max 3 g) followed by 15 mg/kg (round to nearest 250mg; max 2 g) q 8-12h for target trough 15-20 mg/L x 3 days. If symptoms clinically compatible with influenza and influenza RVP pending or positive, consider: Oseltamivir 75 mg PO bid (if normal renal function), discontinue if influenza RVP negative.

### Update on public health measures

- Emphasis is placed on timely control measures. Communicable disease control experts from Zhanggong district, China, state that "...the key point to handling the epidemic is to race against time". Delays render most public health control measures obsolete. The successful control measures by the Chinese and South Korean response to the pandemic is mostly attributed to the scale, centralized coordination and timing of the interventions (Xiong P, 2020).
- The experience from Zhanggong district of China underlines the importance of coordinating the response measures. Bridging communication between the hospitals, communicable disease prevention and control office and quarantine centres was among the earliest response measures. Highways and big stores were locked down in the wake of the outbreak. Case identification and isolation with subsequent

contact tracing was employed. The quick turnaround time between the identification of suspects and the final diagnosis (less than 12 hours) was a great impetus to the success of the response. Contacts of the confirmed cases of COVID-19, who tested negative at first were kept in quarantine for two more weeks before they were declared free of the infection (Xiong P, 2020).

- The outbreak response in South Korea is also exemplary in its early initiation. It took their response team only four days, after the first case was identified in China, to start screening and put in place quarantine plan at their airport. Those who have visited Wuhan city in the previous 14 days were also asked to fill in a surveillance questionnaire and quarantine themselves. Their diagnostic kit labs were up and running in no time--this had enabled them to produce and distribute test kits on January 31 (eleven days after the first case was identified) (Moradi H, 2020).

## **Update on personal protective equipment**

### **Face mask use**

- An article published on BMJ agreed, indirect evidence of benefit combined with the low risk of harm should outweigh the absence of direct evidence supporting mask wearing by the general public, given the gravity of the pandemic. The authors noted wearing a mask in public may become the face of unified action in the fight against this common threat and reinforce the importance of social distancing measures (Javid et al., 2020).
- Ethiopia has now become one of the countries which has made wearing face cloth covering when people are in public places like banks, markets, transportation, shops and pharmacies a requirement. (Fanabc, 2020)

## **Psychosocial wellbeing of health professionals during COVID 19 outbreak**

- In the past couple of days JAMA Psychiatry has published articles in relation to the COVID-19 pandemic. The key message is that having adequate number of health professionals is important, but also improving their resilience in order to effectively and efficiently handle the pandemic is also strategic.
- The main areas of concern reported by health professionals were: availability of PPE, risk of taking the infection to their family, not having quick access to testing for themselves, uncertainty about themselves and their families if they got ill, competency about the

type of care they are going to provide and access to recent information (Shanafelt T et al, 2020).

- A study from China reported that health professionals involved in treating COVID-19 patients were experiencing depressive symptoms, anxiety, insomnia and distress (Lai J et al, 2020). Supporting health care workers during this pandemic is crucial (Adams JG et al, 2020) but it has to be holistic.

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