



Update: May 19 & 20, 2020

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

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Summary

- As of May 20, 12:00 GMT, more than 5 million people (5,012,833) are infected with corona virus worldwide causing 325,490 deaths and 1,977,277 recoveries.
- Africa reported a total of 91,598 cases, 2,912 deaths and 35,808 recoveries as of May 20, 4:00 PM EAT.
- The daily fluctuation in the number of new cases and deaths continues with the latest figures higher than the previous days.
- FDA has authorized two COVID-19 diagnostic tests and additional home sample collection kit. The home sample collection kit has raised some concern regarding its accuracy.
- Potential use of saliva samples as a non-invasive tool for the diagnosis of COVID-19 was studied and found to be 84.2% sensitive and 98.9% specific through RT-PCR method with two comparative specimens indicating that saliva might be used as an alternative specimen.
- Internal data from a company on a candidate vaccine mRNA 1273 has reported safety. But uncertainty about the level of neutralising antibody that is generated and also the limited number of people so far with reported result means that optimism is premature.
- Inappropriate use face masks is wide spread.
- Further evidence about effective methods for decontaminating and recycling face masks have emerged.
- A Meta-analysis and systematic review of studies on COVID-19 and MERS has indicated that delirium occurred commonly in the acute stage and that depression, anxiety, fatigue and post-traumatic stress disorder were experienced post-illness.

Recommendations

- Globally, despite the push to reopen and reengage the economy, the numbers of new cases and deaths continue to fluctuate. Utmost precaution should continue along with very careful planning for re-engaging the economy.
- The optimistic media report about vaccines is premature. The assumption has to be that we are some way off vaccine. Planning needs to take this into account.
- There may be a need to train mental health volunteers to support counselling—for example, trainee psychologists, nurses, social workers, etc, could be candidates for this.
- Inappropriate use of face masks is a major problem. It is important to educate the public as well as those working in government offices.

- Until medical grade face masks are widely available effective methods of recycling need to be implemented.

Update on pathogenesis

Risk factors

- A prospective cohort study was conducted among adult COVID-19 cases who were admitted in two New York hospitals between March 02 – April 1, 2020. The researchers included 1,150 patients and followed them for 28 days to assess the rate of in-hospital death, frequency and duration of invasive mechanical ventilation, frequency of vasopressor use and renal replacement therapy, and time to in-hospital clinical deterioration among 257 critically ill patients. The main findings of the study include;
 - Majority of the patients who were hospitalized were men (67%) with median age of 62 and with at least one chronic illness especially hypertension and diabetes.
 - At the end of the follow up, 101 (39%) of the patients had died and 94 (37%) remained hospitalized.
 - 203 (79%) of patients received invasive mechanical ventilation for a median of 18 days.
 - 170(66%) of patients received vasopressors and 79 (31%) received renal replacement therapy.
 - The median time to in-hospital deterioration was 3 days [Cummings, 2020].

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

Global

- As of May 20, 12:00 GMT, more than 5 million people (5,012,833) are infected with corona virus worldwide causing 325,490 deaths and 1,977,277 recoveries.
- Both the number of new cases and new deaths reported in the last 24 hours (94,813 new cases, 4,589 new deaths) was significantly higher than the previous day report (88,858 new cases and 3,445 new deaths).
- In the United States of America (USA), more than 1.5 million (1,527,951) cases and 93,561 deaths were reported which accounted for 31.4% and 28.7 % of total cases and deaths respectively.
- New York continues to be the most affected state with a total of 362,630 cases and 28,648 deaths followed by New Jersey (151,014 cases & 10,591 deaths) and Illinois (98,030 cases & 4,379 deaths).

- The number of new cases in USA is slightly decreased from 22,630 cases on May 18th to 20,289 cases on May 19th. In contrast, the number of new deaths is substantially increased from 1,003 to 1,552 on May 19th.
- Next to USA, Russia (308,705 cases), Spain (278,803 cases), Brazil (271,885 cases) and United Kingdom (271,885 cases) are other countries severely hit by the pandemic.
- These countries also reported high number of deaths each accounting for large proportion of total deaths in the world; United Kingdom 35,341 (10.9 %), Italy 32,169 (9.9%), France 28,022 (8.6%) and Spain 27,778 (8.5%). However, the total number deaths that was reported from Russia (2,972) remained very low compared to the high number of cases reported in the country.

Africa

- According to Africa CDC, a total of 91,598 cases, 2,912 deaths and 35,808 recoveries were reported as May 20, 4:00 PM EAT.
- South Africa remained the leading country with a total of 17,200 cases and 312 deaths. Even though, the number of new cases is declining since May 17th, (from 1160 to 918 on May 18th and to 767 new cases on May 19th), the number is still very high compared to previous weeks' report. Similarly, the number of new cases is gradually increasing and a total of 26 deaths were reported within the last 24 hours.
- Based on Worldometer report, Egypt (13,484), Algeria (7,377), Morocco (7,048) and Nigeria (6,401) are the other African countries with high number of COVID-19 cases.
- More than two third [2,058 (70.7%)] of the total deaths in the continent were reported from six countries namely; Egypt (659), Algeria (561), South Africa (312), Morocco (194), Nigeria (192) and Cameroon (140).

Ethiopia

- Among the 6,731 total laboratory tests carried out in the last 48 hours, 38 additional COVID-19 cases were identified in the country raising the total number of cases to 389.
- All of the additional cases are Ethiopians, their age ranges from 4 to 68 years and more than three fourth 29 (76.3%) of them are males.
- Out of the 38 additional cases, 18 of them have travel history and 15 have contact history with confirmed COVID-19 case while the rest five have no travel or contact history.
- Almost half 18(47.4%) of these cases were reported from Addis Ababa, 8 from Amhara, 8 from Tigray, 3 from Somali and 1 from Oromia region.
- The ministry also reported that additional six people (three from Somali, 2 from Amhara and 1 from Afar region) are fully recovered from the disease raising the total number of recoveries to 122.

- Therefore, a total of 65,760 laboratory tests were conducted and 389 confirmed cases, 5 deaths and 122 recoveries were reported as of May 20, 5:00 PM EAT.
- Currently, all of the active cases (260) are having mild form of the disease and receiving medical care in the designated treatment centre.

Update on Diagnosis

- The U.S. FDA has granted an emergency use authorization for another at-home sample collection kit. The approval was given to Everlywell, Inc. for the Everlywell COVID-19 Test Home Collection Kit. The kit is authorized to be used by individuals at home who have been screened using an online questionnaire that is reviewed by a health care provider. The kit allows an individual to self-collect a nasal sample at home. It was noted that the FDA has also authorized two COVID-19 diagnostic tests, performed at specific laboratories, for use with samples collected using the Everlywell COVID-19 Test Home Collection Kit. The kit reportedly allows multiple tests at multiple labs increasing patient access to tests, but also protecting others from potential exposure (FDA, 2020).
- A study investigated the potential use of saliva samples as a non-invasive tool for the diagnosis of COVID-19. Two-hundred pairs of saliva samples and samples from a standard nasopharyngeal and throat swab, in persons seeking care at an acute respiratory infection clinic in a university hospital during COVID-19 pandemic, were prospectively collected. RT-PCR was performed and the results of the two specimens were compared. The sensitivity and specificity of the saliva sample RT-PCR were found to be 84.2% and 98.9%, respectively. An analysis of the agreement between the two specimens validated 97.5% observed agreement. It was noted that saliva might be an alternative specimen for the diagnosis of COVID-19 since the collection is non-invasive, and non-aerosol generating and due to the good diagnostic performance it showed (Pasomsub et al., 2020).

Update on Vaccine

Moderna, a U.S. biotechnology company, announced on a press release on 18th May 2020 that its candidate vaccine mRNA 1273 has shown positive interim clinical data against SARS-CoV-2. The Phase I trial is being led by the National Institute of Allergy and Infectious Diseases (NIAID), part of the National Institutes of Health (NIH). 45 volunteer participants were enrolled into the trial and they were administered the candidate vaccine in three doses, 25 µg, 100 µg and 250 µg. According to the researchers, dose dependent increases

in immunogenicity were seen across all the three dose levels, and between prime and boost within the 25 µg and 100 µg dose levels. All participants across all three dose levels seroconverted by day 15 after a single dose. At day 43, two weeks following the second dose, at the 25 µg dose level (n=15), levels of binding antibodies were at the levels seen in convalescent sera (blood samples from people who have recovered from COVID-19) tested in the same assay. At day 43, at the 100 µg dose level (n=10), levels of binding antibodies significantly exceeded the levels seen in convalescent sera. Samples are not yet available for remaining participants. Thus far, mRNA- 1273 was generally safe and well tolerated. To date, the most notable adverse events were seen at the 250 µg dose level, comprising three participants with grade 3 systemic symptoms, following the second dose. All adverse events have been transient and self-resolving (Moderna 2020). However, concerns relate to the uncertainty whether the responses are enough to protect people from infection (<https://www.nature.com/articles/d41586-020-01092-3>). Moderna has not shared the data and the opinion is that the neutralising antibody titres need to be substantially higher to be protective. There is also doubt about the initial animal study for the vaccine, which required a virus modification to enable it to be infective to the mouse cells.

Update on personal protective equipment

Face mask use

- A perspective piece narrates the issues raised after the federal government of Nigeria has made wearing face masks in public a requirement. It was indicated there is misuse and abuse of face masks by the public, government officials, and also healthcare workers. Some people wear face masks on their chin and neck, and that they don't cover their mouth and nose, especially when talking. In addition, used face masks are kept with personal belongings or disposed indiscriminately in public spaces which could promote the spread of the virus. The author noted governments ought to consider local applicability, feasibility, and sustainability, as well as identify and mitigate all potential risks and unintended consequences. Also crucial is the need for intensive public sensitization and education on appropriate use and disposal of face masks in the country (Ogoina, 2020).
- Another study surfaced further strengthening decontamination of masks using steam works. In this particular study, steam treatment resulted in rapid decontamination of bacteriophage

MS2 and MRSA on N95 respirators and medical procedure masks. Repeated cycles of steam treatment were found not to adversely affect fit testing performance. It showed short treatment cycles and ease of use could allow for rapid decontamination of respirators or face masks at the point-of-care between each use (Li et al., 2020).

Psychosocial wellbeing updates

- A Meta-analysis and systematic review on psychiatric and neuropsychiatric presentations of severe acute respiratory syndrome (SARS), Middle East respiratory syndrome (MERS) and COVID 19 revealed that in acute stage delirium is commonly present. In the post illness period depression, anxiety, fatigue and post-traumatic stress disorder (PTSD) are some of the experienced psychiatric and neuropsychiatric problems. In the systematic review they indicated that most of SARS or MERS patients do not show psychiatric disorders but some showed confusion (27.9%), depressed mood (32.6%), anxiety (35.7%) and insomnia (41.9%).
- Though the experience of SARS and MERS are relevant there are some relevant differences. The differences in the case of COVID 19 are: most of the cases are older as compared to SARS and MERS, cases require longer ICU stay. In addition, the experience of COVID 19 after recovery is a bit different from that of SARS and MERS because recovered patients may face economic crisis, physical isolation, and shortage of basic needs due to movement restriction. These all can aggravate the stress level and increase the patient's risk of developing psychiatric problems especially anxiety and depression. This evidence underscores the obvious need for providing mental health service along with COVID 19 treatment during the acute as well as post illness period (Rogers et al., 2020).

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