



Update: 18 &19 June, 2020

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

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Summary

- Globally, as of June 19, 10:00 GMT, more than 8.6 million (8,603,601) people are infected with novel coronavirus causing 456,812 deaths.
- As of June 19th, 4:00 PM EAT, a total of 275,327 cases, 7,395 deaths and 125,316 recoveries were reported in Africa.
- Additional evidence was reported regarding loss of smell and taste from a multicentre (12 European hospitals) study which was conducted among 417 COVID-19 patients-- results showed that 85.6% and 88.0% of patients reported olfactory and gustatory dysfunctions.
 - There is some concern that these dysfunctions may be harbingers of long-term neurological sequelae. Future follow-up studies should include assessment of post-recovery neurological impact.
- Regarding diagnostics, the U.S. FDA revoked the emergency use authorization (EUA) of the Chembio Diagnostic System, Inc. (Chembio) DPP COVID-19 IgM/IgG System, a SARS-CoV-2 antibody test, due to performance concerns with the accuracy of the test.
- Oropharyngeal swab showed relatively lower sensitivity when taken after 7 days of the onset of illness. It was suggested that nasopharyngeal swab may be particularly relevant for persons later in the course of illness and who may have lower amount of SARS-CoV-2 viral RNA.
- Early safety indicators of convalescent plasma for COVID-19 treatment were reported in a non-randomized study that included a large number of patients.
- Additional communication in BMJ and Nature regarding the benefits of dexamethasone. However, no formal publication in peer reviewed journals.

Recommendations

- Planned post-recovery studies of COVID-19 should consider including evaluation of potential neurological sequelae.
- Given the overall safety profile dexamethasone and relatively low cost, dexamethasone may be considered for EFDA emergency use authorisation for patients on ventilators, on oxygen supplement as well as those who would benefit from oxygen supplement but are not receiving oxygen for other practical reasons.
 - But practitioners should exercise caution and be observant of the immune-compromising effect of the drug

- The safety profile of convalescent plasma therapy is encouraging. Studies need to focus on efficacy than on safety.
- Antibody tests are still of uncertain accuracy. Results have to be interpreted cautiously. Any source of such tests should provide clear data on sensitivity and specificity.

Update on pathogenesis

Sign and symptoms

- Minor neurological symptoms such as loss of smell and taste are emerging as common sign and symptoms of COVID-19. A multicenter study with a relatively small sample size (n=417) from 12 European hospitals reported that 85.6% and 88.0% of patients had olfactory and gustatory dysfunctions, respectively. The study also found that these dysfunctions are significantly associated to each other and appeared before the other symptoms in 11.8% of cases [Lechien et'al, 2020].
- In association to this, a commentary highlighted a history of an outbreak of encephalitis lethargica around similar time with influenza pandemic in 1918. It was hypothesized that it was's a viral cause and spreading through nasal membranes. Damage of the upper midbrain and substantia nigra has been reported in encephalitis lethargica, and brain atrophy and neurofibrillary tangles have been reported in post encephalitic Parkinsonism, suggesting a shared neurodegenerative component. Even though, the neurodegenerative effect of SARS-CoV-2 starting in the olfactory bulb is not well explored, the report concluded that we should not underestimate the potential long-term neurological sequelae of this novel coronavirus [Antonino Giordan 2020].

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

Global

- As of June 19, 10:00 GMT, 8,603,601 people are infected with 456,812 deaths and 4,554,365 recoveries.
- Additional 140,528 cases were reported within 24 hours which is slightly lower than the report of the previous day (146,111 new cases). Similarly, the number of new deaths is marginally decreased from 5,264 on June 17th to 5,123 on June 18th.

- In United States of America (USA), more than 2.2 million (2,263,756) people are infected with corona virus and the country also reported the highest number of deaths (120,688 deaths) as of June 19th 10:00 GMT.
- The number of new cases in USA is significantly increased from 26,228 on June 17th to 27,924 on June 18th while the number of new deaths is marginally decreased (809 to 747) within these two days.
- New York remains the most affected state with a total of 408,426 cases and 31,092 deaths followed by New Jersey (171,029 cases & 12,927 deaths) and California (167,233 cases & 5,362 deaths).
- Other countries with high number of COVID-19 cases and deaths include; Brazil (983,359 cases & 47,869 deaths), Russia (569,063 cases & 7,841 deaths), India (381,539 cases & 12,606 deaths) and United Kingdom (300,469 cases & 42,288 deaths).

Africa

- As of June 19th, 4:00 PM EAT, a total of 275,327 cases, 7,395 deaths and 125,316 recoveries were reported in Africa.
- The number of cases in South Africa is persistently increasing and a total of 83,890 cases were reported in the country, which accounted for close to a third (30.5%) of the total cases reported in the continent.
- Egypt (50,437 cases), Nigeria (18,480 cases), Ghana (12,929 cases), Algeria (11,385 cases) and Cameroon (10,638 cases) are other African countries with high number of cases.
- More than three fourth [5,730 (77.5%)] of total deaths in the continent were reported from few countries namely; Egypt (1,938), South Africa (1,737), Algeria (811), Sudan (487), Nigeria (475) and Cameroon (282).
- Ethiopia
 - According to the Ministry of Health report, a total of 10,376 laboratory tests were carried out within 48 hours and 238 additional COVID-19 cases were identified in the country.
 - All of the additional cases are Ethiopians, their age ranges from 1 to 78 years and more than half 139 (58.4%) of them are males.
 - More than two third 166 (69.8%) of these cases were reported from Addis Ababa, 14 from Somali, 14 from Oromia, 14 from Tigray, 11 from SNNPR, 9 from Amhara, 4 from Afar, 4 from Dire Dawa and 2 from Hareri region.
 - The ministry also reported that additional 229 people (224 from Addis Ababa, 3 from Tigray and 2 from Dire Dawa) are fully recovered from the disease raising the total number of recoveries to 849.

- In addition, three people (2 males and 1 females) have passed away in the last two days raising the total number of deaths in the country to 63.
- Therefore, a total of 197,361 laboratory tests were conducted and 3,759 confirmed cases, 63 deaths and 849 recoveries were reported as of June 17th, 4:00 PM EAT.
- Out of the total 2,845 active cases, 30 of them are in critical condition and receiving treatment in the intensive care unit, while the others are having mild form of the disease

Update on Diagnosis

- The U.S. FDA revoked the emergency use authorization (EUA) of the Chembio Diagnostic System, Inc. (Chembio) DPP COVID-19 IgM/IgG System, a SARS-CoV-2 antibody test, due to performance concerns with the accuracy of the test. It was stated the Chembio antibody test was one of the first antibody tests authorized by the FDA during the COVID-19 public health emergency and that it was deemed "may be effective" standard for EUA based on the information that Chembio submitted to the FDA at that time. It was noted through the continued review and authorization of serology tests, the data submitted by Chembio as well as an independent evaluation of the Chembio test showed that this test generates a higher than expected rate of false results and higher than that reflected in the authorized labelling for the device. It was indicated the test may not be effective in detecting antibodies against SARS-CoV-2 or that the known and potential benefits of the test outweigh the known and potential risks of the test. Moreover, the risk to public health from the false test results and the need to protect the public health or safety were considered key reasons for EUA revocation. The FDA announced that this this test may not be distributed (FDA, 2020).
- A study analysed data on nasopharyngeal (NP) and oropharyngeal (OP) swabs tested for SARS-CoV-2 RNA by CDC through March 3, 2020. Among 146 NP and OP swab pairs collected ≤ 7 days since illness onset, CDC real-time RT-PCR SARS-CoV-2 assay diagnostic results were 95.2% concordant. However, NP swab Ct values were lower (indicating more virus) in 66.7% of concordant-positive pairs. It was noted this did not ultimately impact most diagnostic results. Sensitivity analyses of NP-OP swab pairs collected > 7 days since illness onset also showed sensitivity of OP swab to be comparatively low which suggests NP swab may be particularly relevant for persons later in the illness course and who may have lower amount of SARS-CoV-2 viral RNA (Patel et al., 2020).

Update on treatment

- A safety update was reported of the US Convalescent Plasma Expanded Access Program of 20,000 hospitalized patients in the US with severe or life-threatening COVID-19; the overall frequency of SAEs classified as attributable or likely secondary to convalescent plasma transfusion was reported to be low (<1% of all transfusions) and the seven-day mortality rate in this extremely high risk cohort was 8.6%. Despite the potential risks associated with plasma transfusion in critically-ill patients, these data provide continued optimism for the safety of COVID-19 convalescent plasma. However, the study does not establish efficacy. These emerging data provide early safety indicators of convalescent plasma for COVID-19 treatment and suggest research should shift focus from safety toward determining the efficacy of convalescent plasma (Joyner and Kunze 2020).

In relation to Dexamethasone-further peer reviewed evidence is needed. In the meantime, the BMJ and

Nature have highlighted the following:

The BMJ (BMJ 2020;369:m2422 <http://dx.doi.org/10.1136/bmj.m2422>)

- "overall dexamethasone reduced the 28 day mortality rate by 17% (0.83 (0.74 to 0.92); P=0.0007) with a highly significant trend showing greatest benefit among patients needing ventilation (test for trend p <0.001)." Follow up has been completed for over 94% of participants.
- Dexamethasone "reduced deaths by one third in ventilated patients (rate ratio 0.65 (95% confidence interval 0.48 to 0.88); P=0.0003) and by one fifth in other patients receiving oxygen only (0.80 (0.67 to 0.96); P=0.0021)." Among the patients who received usual care alone, 28 day mortality was highest in those who required ventilation (41%), intermediate in those patients who required oxygen only (25%), and lowest among those who did not require any respiratory intervention (13%).
- The findings suggest that taking dexamethasone reduces mortality from around 41% to 27% for ventilated patients and from 25% to 20% among those needing oxygen.

Dosing

- For the randomised controlled trial, the team recruited 2104 patients for the dexamethasone arm (6 mg once daily, taken orally or by injection for 10 days) and compared them with 4321 patients receiving standard care.

Nature introduces subject with the following heading

(<https://www.nature.com/articles/d41586-020-01824-5>): Coronavirus breakthrough: dexamethasone is first drug shown to save lives. In a large trial, a cheap and widely available steroid cut deaths by one-third among patients critically ill with COVID-19.

- Although caution needs to be exercised until a peer reviewed publication, there seems to be grounds to recommend an emergency use authorisation of dexamethasone for severe COVID-19 where oxygen and/or ventilation are indicated.

Psychosocial wellbeing updates

- The negative impact of COVID-19 on the mental wellbeing of both clinical and non-clinical health workers appears to be more intense among health workers with poor social or family support. Having large family number or large number of dependants was also mentioned to be positively associated with experiencing stress and anxiety (Evanoff et al, 2020). However, this was a web based observational study with low response rate (34.3%) and higher number of non-clinical health workers (38% Vs 17% clinical health workers) who were working from home.
- Having clear psycho social support strategy for health workers in the COVID 19 response is beneficial and cost effective (Miotto et al, 2020).

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