Update: 11 & 12 June, 2020

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

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Summary

- As of June 12, 12:00 GMT, more than 7.6 million (7,624,055) people were infected with the novel coronavirus with 424,365 deaths and 3,862,299 recoveries. The highest number of new cases (137,887) were reported within the past 24 hours since the pandemic started.
- United States of America (USA) accounted for more than 2 million (2,090,115) infected people.
- As of June 12th, 5:00 PM EAT, a total of 216,446 cases, 5,756 deaths and 97,068 recoveries were reported in Africa.
- It was noted that chest CT could be used as a diagnostic tool for COVID-19 suspected patients with fever during the initial screening reported to have a high sensitivity in patients with COVID-19 improving accuracy of diagnosis.
- Another repurposed drug (ivermectin) was seen to inhibit SARS-CoV-2 in vitro. However, the potential repurposing plausibility, if any, is at present very small, because the antiviral concentrations would be attainable only after massive overdose.
- A new modelling study suggests that face masks may be even more important than originally thought in preventing future outbreaks of the new coronavirus. The modelling indicated that when lockdown periods are combined with 100% face mask use, disease spread is vastly diminished, preventing secondary and tertiary waves bringing the epidemic under control.

Recommendations

- As shown in the last report, these couple of days have again witnessed the highest number of new cases globally. Revisiting implementation of control measures is needed.
- Face mask may be even more useful than previously believed. There is a need to ensure good quality masks are being used widely aiming for a 100% use.

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

Global

- Currently, more than 7.6 million (7,624,055) people are infected with novel coronavirus causing 424,365 deaths and 3,862,299 recoveries as of June 12, 12:00 GMT.
- 137,887 new cases were reported within 24 hours, which is the highest number of new cases reported since the pandemic started.
- In the United States of America (USA), more than 2 million (2,090,115) people are infected and the country also reported the highest number of deaths (112,506 deaths) as of June 12th 12:00 GMT.
- The number of new cases in USA is significantly increased from 20,852 on June 10th to 23,300 on June 11th while the number of new deaths is marginally decreased (982 to 904) within these two days.
- The number of new cases in India was persistently increasing in the past few days and currently, the country ranked fourth with a total number of 300,821 cases and 8,512 deaths.
- Other countries with high number of COVID-19 cases and deaths include; Brazil (805,649 cases & 41,058 deaths), Russia (511,423 cases & 6,715 deaths) and United Kingdom (291,409 cases & 41,279 deaths).

Africa

- As of June 12th, 5:00 PM EAT, a total of 216,446 cases, 5,756 deaths and 97,068 recoveries were reported in Africa.
- The number of infections in South Africa is persistently increasing and a total of 58,568 cases are reported in the country, which accounted for more than one fourth (27.1%) of total cases reported in the continent. Both the number of new cases (3,147) and deaths (74) reported within 24 hours is substantially higher than the previous day report (2,430 cases & 48 deaths).

- Egypt (39,726), Nigeria (14,554 cases), Ghana (10,856 cases), Algeria (10,589 cases), Cameroon (8,681 cases), Morocco (8,030 cases) are other African countries with high number of corona cases.
- Majority [4.626 (80.4%)] of total deaths in the continent were reported from few countries namely; Egypt (1,377), South Africa (1,284), Algeria (741), Sudan (413), Nigeria (387), Morocco (212) and Cameroon (212).
  Ethiopia
- According to the Ministry of Health report, a total of 12,336 laboratory tests were carried out within 48 hours and 409 additional COVID-19 cases were identified in the country.
- Four hundred four (404) of these cases are Ethiopians while the rest five are citizen of other countries. The age of the additional cases ranges from 1 to 92 years and more than half 289 (70.6%) of them are males.
- Almost two third 295 (65%) of these cases were reported from Addis Ababa, 42 from Somali, 25 from Amhara, 19 from Oromia, 19 from Tigray, 8 from SNNPR, 1 from Hareri and 1 from Benhsangul gumuz region.
- The ministry also reported that additional 50 people (48 from Addis Ababa, 1 from Amhara and 1 from SNNPR region) are fully recovered from the disease raising the total number of recoveries to 451.
- In addition, eight people (6 males and 2 females) have passed away on June 8th and June 9th raising the total number of deaths in the country to 35.
- Therefore, a total of 170,860 laboratory tests were conducted and 2,915 confirmed cases, 47 deaths and 451 recoveries were reported as of June 12th, 4:00 PM EAT.
- Out of the total 2,415 active cases, 38 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

- One study investigated the correlation between chest CT and clinical features in COVID-19 suspected patients with or without fever. In this particular study, 211 COVID-19 suspected patients who underwent both chest CT and reverse transcription polymerase chain reaction in Wuhan, China, were retrospectively enrolled. The performance of CT in patients with relevant onset of symptoms, with fever (n = 141) and without fever (n = 70), was assessed respectively. The result showed that the sensitivity of CT for COVID-19 was 97.3%. There were 141 suspected patients with fever and 70 without fever. It was noted that chest CT has a high sensitivity in patients with COVID-19, and it can improve diagnostic accuracy for COVID-19 suspected patients with fever during the initial screen, whereas its value for non-fever patients remains questionable (Song et al., 2020).

Update on treatment

- The broad-spectrum antiparasitic agent ivermectin has been very recently found to inhibit SARS-CoV-2 in vitro and proposed as a candidate for drug repurposing in COVID-19. In the present report the in vitro antiviral activity end-points are analyzed from the pharmacokinetic perspective. The available pharmacokinetic data from clinically relevant and excessive dosing studies indicate that the SARS-CoV-2 inhibitory concentrations are not likely to be attainable in humans. At the recommended doses, ivermectin does not readily penetrate the central nervous system (CNS) of mammals, where GABA functions as a neurotransmitter. Conversely, in healthy volunteers and infected patients, the drug is usually well tolerated at the therapeutic dose ranges. A recent meta-analysis has shown that even larger doses (up to 800 µg/kg) with a several years period of follow-up could be well tolerated in patients with parasitic infections. The largest dose intensity with registered pharmacokinetic parameters in healthy subjects is 120 mg, corresponding to up to 2000 µg/kg. As evident from the analyzed pharmacokinetic data, both the clinically applied dosage schedules and the aforementioned excessive 120 mg dose yield

blood levels at the ng/mL i.e. nanomolar range. These concentrations are orders of magnitude lower, as compared to the in vitro antiviral end-points. As a result, in the case of ivermectin, the potential repurposing plausibility if any is at present not very likely, because the antiviral concentrations would be attainable only after massive over dose (Momekov and Momekova 2020).

Update on personal protective equipment

Face mask use

- A new modelling study suggests that face masks may be even more important than originally thought in preventing future outbreaks of the new coronavirus. This new article reported the results of two mathematical models examining the dynamics of COVID-19 epidemics when facemasks are worn by the public, with or without imposed 'lock-down' periods. It was stated the study showed that when facemasks are used by the public all the time (not just from when symptoms first appear), the effective reproduction number, Re, can be decreased below 1, leading to the mitigation of epidemic spread. The modelling indicated that when lockdown periods are combined with 100% face mask use, disease spread is vastly diminished, preventing secondary and tertiary waves bringing the epidemic under control. It was indicated the effect occurs even when it is assumed that facemasks are only 50% effective at capturing exhaled virus inoculum with an equal or lower efficiency on inhalation. It was also demonstrated that if people wear masks in public, it is twice as effective at reducing the R number than if face coverings are only worn after symptoms appear. The models also show that facemask adoption provides population-level benefits, even in circumstances where wearers are placed at increased risk. It was noted even if facemask use began after the start of the first lock-down period, the benefits could still add by reducing the risk of the occurrence of further COVID-19 waves. Also, even at lower levels of adoption, the benefits accrue to the facemask wearers. The authors concluded facemask use by the public, when used in combination with physical distancing or periods of lock-down, may provide an acceptable way of managing the COVID-19 pandemic and re-opening economic activity (Stutt et al., 2020).

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