



10th APRIL 2020

DAILY UPDATE

GLOBAL, REGIONAL AND NATIONAL DEVELOPMENTS ON COVID-19

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Summary

- Globally, 210 countries and territories are affected by the pandemic with 1,604,900 people with COVID-19, 95,738 deaths and 356,673 recoveries.
- In the USA, almost half a million people (468,887) are infected with the virus. The number of deaths stands at 16,697.
- A total of 11,424 confirmed cases, 572 deaths, and 1,283 recoveries were reported from Africa.
- Critical evaluation of the study that reported on the benefits of hydroxychloroquine and Azithromycin has indicated serious shortcomings in the design and implementation of the study.
- There are calls for research groups to consider investigating the potential therapeutic efficacy of tetracycline antibiotics due to their lipophilic property, high tissue penetration in the lungs and anti-inflammatory activity.
- A publication of the British Medical Journal encourages the use of cloth masks despite the lack of good quality evidence. It calls for the application of the precautionary principle.

Recommendations

- It seems there is less certainty about drugs that might work for COVID-19. There is a need to exercise caution in accepting recommended treatments.
- Further evidence is required for hydroxychloroquine
- There is some rationale for conducting clinical trials with tetracyclines. The issue of antimicrobial resistance has to be borne in mind
- Application of the precautionary principle deserves full consideration in the case of cloth coverings of the face. But this has to be combined with a careful public education regarding safe use of such measures and the need for a scrupulous application of the standard control interventions.

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

Global

- As of April 10, 5:00 GMT, the pandemic has affected 210 countries and territories around the world with 1,604,900 people with the infection, 95,738 deaths and 356,673 recoveries.
- A total of 85,568 new cases and 7,233 new deaths were reported in the last 24 hours based on Worldometer daily update.
- In the USA, almost half a million people (468,887) are infected with the virus and the total number of deaths increased to 16,697 deaths.
- New York is the most affected state with 160,501 cases and 7,176 deaths followed by New Jersey (51,027 cases, 1,700 deaths) and Michigan (21,504 cases, 1076 deaths).
- The country also reported 33,536 new cases and 1,900 new deaths within a single day.
- Even though, the number of deaths is increasing, and that the USA has become the second country with highest number of deaths, Dr. Anthony Fauci, the director of the National Institute of Allergy and Infectious Diseases says that social distancing and behaviour changes are starting to have a real effect in the country. Therefore, the previous projection on the total coronavirus death is now revised to 60,000 from the previous estimate of 100,000-200,000 [Savana. L, 2020].
- Like before, Spain (153,222), Italy (143,626), Germany (118,235) and France (117,749) are other most affected countries in the world.

Africa

- As of April 10, 9:00 PM EAT, a total of 11,424 confirmed cases, 572 deaths, and 1,283 recoveries were reported from Africa according to Africa CDC.
- South Africa 1,934 (17%), Egypt 1,699 (15%) Algeria 1,666 (14.5%), Morocco 1,374 (12%) and Cameroon 803 (7%) are the five most affected countries in the continent.
- The highest number of deaths occurred in Algeria (235), followed by Egypt (118), Morocco (97) and Tunisia (25), which in total accounted for 83% of total deaths in the continent.
- As compared to the report of the previous day, the number of new cases within the last 24 hours is increased in Egypt (110 to 139), Cameroon (45 to 73) and Morocco (91 to 99), while it's slightly decreased in South Africa (96 to 89) and Algeria (104 to 94).

Ethiopia

- Ethiopian Public Health Institute conducted 294 additional tests within 24 hours and one of them confirmed to be positive for COVID-19 making the total number of cases to 56.
- The additional case is a 43 years old male Canadian (Ethiopian born) who came from Canada through Dubai. He was staying in the mandatory quarantine before confirming the test.
- Currently, there are 56 confirmed cases, 2 deaths and 4 recoveries as of April 10, 10:00 AM EAT.
- Out of the total active cases, 47 of them are mild cases and 1 serious/ critical cases who are under medical treatment.

Update on Diagnosis

- According to FIND diagnostics, as of 10th April 2020 [11:00am, East Africa time], there are 200 molecular assay tests commercialized and 38 tests under development for COVID-19. Also, there are, 183 immunoassay tests commercialized and 47 tests under development (FIND, 2020).

Update on Treatment

Treatment considerations for COVID-19 patients in using Hydroxy chloroquine and Azithromycin

- Re-evaluation of the study that reported beneficial effect of Hydroxychloroquine and azithromycin of COVID-19 has demonstrated several shortcomings (Lodise and Rybak, 2020). These shortcomings included design (open-label non-randomized clinical trial; biased comparison group) and analysis (only 20/26 were included in the analyses. Several of the control patients tested negative at baseline and detected positive at day 2 or 3, indicating the potential for differences between controls and cases in viral loads at baseline or within the first 24-72 hours (Lodise and Rybak, 2020, Gautret et al., 2020).
- The results of the 20 included patients showed that those treated with hydroxychloroquine had significantly higher rates of virologic cure, defined as negative polymerase chain reaction (PCR) results in nasopharyngeal samples, relative to the controls (70% vs. 12.5%, respectively, p-value=0.001). Virologic cure rates were particularly impressive (100%) in the group that received both hydroxychloroquine

and azithromycin. While the results of the 20 included patients are encouraging, inclusion of the 6 patients lost to follow-up indicates that the failure rate was approximately 40-50%.

Therapeutic potential of tetracycline in the treatment of COVID 19

- One recommended area of research for treatment for COVID-19 was Tetracycline. It was hypothesized that the high lipophilic nature of these drugs and their ability to chelate zinc compounds on matrix metalloproteinases (MMPs) can potentially enable them to inhibit the virus to infiltrate into the host cell, which in turn inhibit viral replication. In the second place, tetracyclines may be able to treat COVID-19 infection through their well-known anti-inflammatory capabilities, including downregulation of the NFκB pathway as well as a decrease in levels of inflammatory cytokines such as TNF-α, IL-1β, and IL-6 independent of its antibiotic mechanism. At last it is well known that the COVID-19 virus has a lipophilic outer shell. Tetracyclines' lipophilic nature and high tissue penetration in the lungs might allow them inhibit viral replication in the lungs and along with their anti-inflammatory activity, play an important role as therapeutic agents in the treatment of COVID-19. Given that a significant number of patients infected with COVID-19 develop complicated pneumonia or acute respiratory distress syndrome (ARDS), it is possible that tetracyclines might alleviate hospital load and decrease death due to these complications. Moreover, tetracyclines overall are much safer agents than other potential agents that have been considered to treat COVID-19, such as chloroquine or antiretroviral drugs. Accordingly, the researchers strongly urged research groups to consider investigating the potential therapeutic efficacy of tetracycline antibiotics in treating COVID-19 (Sodhi and Etminan, 2020).

Update on personal protective equipment

Face mask

- In an article published on BMJ on 9th April, an influential author, Trisha Greenhalgh, argues that policy makers should apply the precautionary principle and encourage people to wear face masks and cloth face covers on the grounds that there is little to lose and potentially something to gain from this measure. In the paper, evidence from studies done on the use of face masks was presented. The authors suggested it is good to apply precautionary principle, without definitive evidence, just in case and even if masks provide limited protection, they could prevent some transmission

of COVID-19. They concluded that wearing masks in public should be advised in COVID-19 is a serious threat (Greenhalgh et al., 2020).

Psychosocial wellbeing of health professionals during COVID 19 outbreak

- Psychological symptoms among frontline healthcare workers during COVID-19 outbreak in Wuhan: Pre print article
- This article showed that the health workers face various psychosocial problems. Lack of appropriate psychological preparedness was significantly associated with higher depressive and anxiety symptoms (Du J et al, 2020).
- In February the WHO-China Joint Mission on COVID-19 has announced that over 3,000 health workers are infected with COVID-19. A month later it is reported around 4824 health workers have been infected with COVID-19 in Italy. This has created significant psychological pressure on the health workers(Huang J et al, 2020). Therefore urgent mental health care for health workers around the world is required (Xiang Y-T et al, 2020).

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