



7th APRIL 2020

DAILY UPDATE ON GLOBAL AND NATIONAL DEVELOPMENTS ON COVID-19

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Summary

- Globally, 208 countries are affected by COVID-19, causing 1,347,686 cases, and 74,782 deaths.
- A total of 9,457 confirmed cases, 442 deaths, and 848 recoveries were reported from Africa.
- More studies are emerging specifying the need for COVID-19 antibody testing since antibody detection is of epidemiological significance
- Until more evidence is available on the safety of NSAIDs, NICE advises to use paracetamol in preference to NSAIDs for managing fever in patients with suspected COVID-19
- Multi-country clinical trials are being done on two drugs, namely Baricitinib and Hydroxy Chloroquine
- Mortality reports may be underestimated because deaths at home are not counted. For example, it is estimated that in the US, only 1 in 10 cases are tested and reported. In New York, 180-195 deaths are believed to occur at home and not reported. The projection is that, a hidden pandemic is spreading in counties where 94% of Americans live.
- South Africa continues to have the largest number of cases in Africa but the number of new cases has declined.
- More evidence on potential effectiveness of face masks modelled with a comparable service suggests homemade masks may have a higher level of protection than reported for influenza. This again suggests cloth masks may be effective against transmission of COVID-19.

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

Global

- Currently, the pandemic affected more than 208 countries causing 1,347,686 cases, and 74,782 deaths as of April 07, 6:00 GMT.
- In the last 24 hours, a total of 73,135 new cases and 5,227 new deaths were reported worldwide.

- Out of the total active cases, 939,055 (95%) of them are mild cases while the rest 47,396 (5%) are serious/ critical cases.
- More than one fourth 367,650 (27.3%) of total cases were reported from United States of America (USA) with 30,331 new cases on April 06, 2020. The country also reported the highest number of deaths (1,255) that occurred within 24 hrs.
- Next to USA, Spain (136,675), Italy (132,547), Germany (103,375), France (98,010) and China (82,697) continue to be most affected countries in the world.
- The number of new deaths in Germany (226 new deaths) is increased as compared to yesterday's report (140 new deaths). This is the highest number of deaths that occurred in a single day since the pandemic started; which raised the total number of deaths occurred in the country 1,810.
- The highest number of deaths occurred in Italy (16,523) followed by Spain (13,341), USA (10,943), France (8,911) and United Kingdom (5,373).
- The chair of New York City Council Health Committee tweeted that an estimated additional 180 - 195 deaths per day occurring at home in New York City due to COVID-19 are not being counted in the official figures. This is due to lack of testing capacity for the large numbers dying at home which resulted in undercounting of the total number of deaths in USA.
- Based on the low testing rates for COVID 19 in USA, a study at the University of Texas estimated that, only 1 in 10 cases are tested and reported so far. Given this detection rate, there is a 51% chance that there is already a growing outbreak underway. The study also reported that COVID-19 is likely spreading in 72% of all counties in the US, containing 94% of the national population [Javan.E, 2020].

Africa

- According to Africa CDC, a total of 9,457 confirmed cases, 442 deaths, and 848 recoveries were reported in Africa as of April 06, 5:00 PM EAT

- So far, 51 African countries are affected with COVID-19 and 39 of them were having local transmission while 12 only have imported cases.
- South Africa remained the first leading country with a total of 1,686 cases and 12 deaths.
- Based on Worldemeter report, Algeria (1,423), Egypt (1,322), Morocco (1,120), Cameroon (658) and Tunisia (596) are other African countries with high number of cases and deaths.
- As compared to previous day report, the total number of new cases in South Africa (70 to 31) and Cameroon (95 to 9) is enormously declined while it's increased in Egypt (103 to 149) and Algeria (69 to 103).
- More than four fifth (81%) of the total deaths occurred in the continent were reported from Algeria (173), Egypt (85), Morocco (80) and Tunisia (22).

Ethiopia

- Ethiopian Public Health Institute carried out 264 additional tests with in the last 24 hours and 8 new confirmed cases were identified.
- Currently, there are 52 confirmed cases, 2 deaths and 4 recoveries as of April 07, 3:00 PM.
- Out of the total active cases, 43 of them are mild cases and 1 serious/ critical case who is under medical treatment in the designated treatment center. Two of the cases returned back to their home country.
- According to the Ethiopian Public Health institute COVID 19 epidemic trajectory and social distancing model, one third of the Ethiopian population would be infected by COVID-19 at the peak of the epidemic which is estimated to be two months from now.
- It's also stated that strict implementation of social distancing can reduce 50% of infection (15 and 0.87 million) that would have occurred at the peak both at the national level and in Addis Ababa respectively [Institute, E. P. H, 2020].

Update on Diagnosis

- According to FIND diagnostics, as of 7th April 2020 [11:00am, East Africa time], there are 188 molecular assay tests commercialized and 37 tests under development for COVID-19. Also there are, 167 immunoassay tests commercialized and 46 tests under development(FIND, 2020).
- More studies are emerging specifying the need for COVID-19 antibody testing since antibody detection is of epidemiological significance and is an important means to understand the occurrence, development, prognosis, and outcome of COVID-19(Du et al., 2020, Yuen et al., 2020, Vashist, 2020).

Update on Treatment

- The National Institute for Health and Care Excellence (NICE) advises *in a rapid guideline* on managing symptoms of COVID-19 recommends that paracetamol should be used in preference to non-steroidal anti-inflammatory drugs for managing fever in patients with suspected covid-19 until more evidence is available on the safety of NSAIDs. Moreover, the guidelines also suggest the use of non-pharmacological treatments like honey (1 tsp) before moving on to medication in managing cough (Torjesen, 2020, NICE, 2020).

Table 1: Drugs recently under study for COVID 19 disease (Richardson et al., 2020), (US National Library of Medicine, 2020b, Us National Library of Medicine, 2020c, US National Library of Medicine, 2020a)

Drugs	Licensed use	Rationale for use	Clinical trials	Dosage	Comment
Baricitinib	Rheumatoid arthritis	reduce / interrupt the passage of the virus into target cells, and to inhibit the JAK1- and JAK2-mediated cytokine release.	<p>Currently no known published clinical trial evidence supporting efficacy or safety of Baricitinib in treating COVID-19</p> <p>Italy: Phase 3 Interventional, open-label, 2-week, prospective trial (NCT04320277) of a cohort of patients with mild to moderate COVID-19 infection. The Primary objective is to assess the efficacy of Baricitinib combined with antiviral therapy in patients with COVID-19-related mild and moderate disease in- terms of reduction of the percentage of subjects requiring ICU admission. (Start and end date is 16/03/2020 - 30/04/2020)</p> <p>Canada: Phase 2 non randomized open label clinical trial (NCT04321993) It focuses on the treatment of Moderate to Severe Coronavirus Disease in Hospitalized Patients. Investigational medications adjunct to clinical standard of care treatment will be assessed to evaluate safety and effectiveness as an anti-COVID-19 treatment. All hospitalized persons with moderate to severe COVID-19 disease that meet eligibility criteria will be offered participation. (start and finish date March/2020 – February /2021)</p>	<p>Baricitinib 4 mg/day/orally combined to antiviral therapy ritonavir for 2 weeks. Baricitinib tablets 4 mg were administered in the morning. With Ritonavir 600 mg/bid</p> <p>Baricitinib 2 mg po daily for 10 days /OR Lopinavir/ritonavir tablet 200mg/50mg 2 tables by mouth, every 12 hours for 10 days /OR</p> <p>Hydroxychloroquine sulfate sulfate tablet 200 mg 2 tablets by mouth, every 12 hours for 10 days/ OR</p> <p>Sarilumab 200mg subcutaneous injection once</p>	<p>No preliminary finding (estimated enrolment :60)</p> <p>Not yet recruiting (estimated enrolment :1000)</p>

<p>Hydroxy Chloroquine</p>	<p>Anti-malarial</p>	<p>In vitro activity against SARS-CoV-2 in infected Vero E6 cells.</p> <p>Has immunomodulatory activity that theoretically could contribute to an anti-inflammatory response in patients with viral infections</p>	<p>Texas , United states: Prospective nonrandomized open label clinical trial (NCT04333225) that aims to assess the efficacy of hydroxychloroquine treatment weekly for a total of 7 weeks in the prevention of COVID-19 infection, three hundred sixty (360) Healthcare workers with high risk exposure to patients infected with COVID-19 will be tested for COVID-19 infection via nasopharyngeal (NP) swab once weekly for 7 weeks. Of those, one hundred eighty (180) will receive weekly doses of hydroxychloroquine for the duration of the study. Subjects who opt not to receive the study drug will form the control group. (Start and end of the trial 03/04/2020- 30/07/2020)</p>	<p>Experimental: Treatment</p> <p>Oral hydroxychloroquine 400 mg twice a day (two 200 mg tabs twice a day) on day 1 followed by two 200 mg tablets once a week for a total of 7 weeks.</p>	<p>Not yet recruiting (estimated enrolment: 360)</p>
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Public health control measures

- Social distancing and quarantine will help control the outbreak only if accompanied by extensive testing and efficient contact tracing. Otherwise these measures will only delay the transmission with no promise of total control. Nations should use the delay in transmission, to buy time and prepare their health system to respond to the eminent surge in the number of cases. The level of preparedness is shown to predict the impact of the outbreak both in terms of disease incidence and mortality. But nations, one after the other, have played down the impact of the outbreak until it is at their doorsteps.
- Resources should be mobilized to strengthen the intensive care services. Community-based interventions should focus on protecting the vulnerable groups of the population to reduce the risk of death.
- The authors recommend under-resourced nations should establish green zones to protect the vulnerable groups of population. The elderly (>60 years in the developing world context), people with underlying chronic diseases such as TB, HIV, Diabetes mellitus, and cardiovascular illnesses should be isolated from the rest of the population. Whenever possible, people with chronic diseases should avoid coming to health care facilities, this could be achieved by providing remote health care services probably using Tele Medicine. This will help reduce the risk of exposing the most vulnerable groups to the virus.
- Zoning at a household level could be done by dedicating a room for the vulnerable and avoiding contact with the remaining members. If favourable this could be scaled to neighbourhoods, the community could swap houses to put the vulnerable groups in one structure and the rest of the members in the remaining houses. Only few people could be assigned to look after

this high-risk groups who are under quarantine. The latter approach may work better in settings like refugee camps and prisons.

- The zoning and distancing vulnerable groups from health care facilities help reduce complications and death secondary to COVID-19. It will be performed assuming the health system preparedness is no match to the looming crises. This way health systems can mainly deal with patients with a fighting chance of surviving the infection, at the same time reducing the potential high number of deaths (Dahab M, 2020).

Update on Personal protective equipment

Facemask use

- The use of cloth masks is now being recommended to slow down the spread of COVID-19. In this regard, new studies are being conducted to measure the effectiveness of homemade face masks.
- A recent study compared the efficacy of one-layer polyester cloth, a homemade mask made of one-layer polyester cloth plus 4-layer kitchen paper (each layer containing three thin layers), a medical mask and a N95 mask in blocking avian influenza virus (AIV) in aerosols. The researchers explained AIV was used to mock SARS-CoV-2 because they are both enveloped and pleomorphic spherical viruses with the diameter around 80–120 nm. The results showed that N95 masks blocked nearly all the mock virus, and medical masks blocked approximately 97% of the virus, and the homemade mask blocked approximately 95% of the virus (Ma et al., 2020).
- In order to get the extra protection from wearing cloth masks, the proper use is crucial. The proper use starts from putting on the mask. It is recommended that one should wash hands first then place the inside of a clean mask against face, cover the nose and mouth and make sure it fits well, but the cloth part should not be touched. While wearing the cloth mask, it is important not to touch face or fiddle with the mask and to remove it if it gets wet. When taking off the mask, only the straps should be touched and it should be kept in a container until it is washed. Also

washing hands after taking it off is important. It is advised to have 2 masks so that there is one ready which is clean, not share masks with other people, to wash the mask with soap and hot water and dry the mask in the sun and iron it to disinfect it(University of Cape Town, 2020).

Psychosocial wellbeing of health professionals during COVID 19 outbreak

The following tips can help improve mental health and wellbeing:

1. Stay connected with people

- Have healthy relationships with people around you. Distance yourself from other people only physically but communicate while staying at home.

2. Talk about your worries

- It is okay to be worried, scared or helpless about the current situation. But it is good to share your concerns with others you trust – and doing so may help them too.

3. Support and help others

- Help someone around you it will contribute to your good feelings.

4. Look after your body

- Eat healthy, stay hydrated, exercise regularly and avoid maladaptive coping

5. Stick to the facts

- Facts will help to reduce fear

6. Stay on top of difficult feelings

- Feeling anxious about COVID 19 is normal but feeling intense anxiety will have an impact on your daily life. Try to focus on the things you can control, for example your behaviour, where to get your information or who you speak to.

7. Do things you enjoy

- When we are worried, anxious or low, we might stop doing things we usually enjoy. Focusing on your favourite hobby, relaxing indoors or connecting with others can help with anxious thoughts and feelings.

8. Focus on the present moment

- Instead of worrying about the future it is better to focus on the present and be mindful of the present.

9. Get good sleep

- Quality sleep makes a big difference to how we feel mentally and physically.
- Try to get regular sleeping patterns and keep up good sleep hygiene practices – such as avoiding screens before bed, heavy use of caffeine and creating a restful environment in your sleeping area (NHS, 2020)

Recommendations

- Consider using paracetamol ahead of NSAIDs to control pain in COVID-19
- 1 tsp of honey recommended for controlling cough before cough suppressant medications. This may need additional confirmatory studies
- Consider zoning for at risk people
- Testing and contact tracing needed in addition to social distancing and other interventions. Local manufacturing of test kits will be more cost efficient
- Protecting the vulnerable groups by focusing on community-based interventions is mandatory to decrease the risk of death from the pandemic in low-income countries.
- Distance consultations or follow ups (e.g., Telephone consultation as used at Tikur Anbassa) may reduce risk for people with pre-existing conditions
- More evidence on potential effectiveness of face mask modelled with a comparable service suggests home-made masks may have a higher level of protection than reported for influenza. This again suggests cloth masks may be effective against transmission of COVID-19.

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