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(From April 25-27)

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

THE KNOWLEDGE SYNTHESIS TEAM
CDT-AFRICA, ADDIS ABABA UNIVERSITY
www.cdt-africa.org

Summary

- As of April 27, 5:00 GMT, the novel coronavirus infected nearly 3 million (2,995,152) people worldwide with 881,510 recoveries and causing 207,008 deaths.
- In Africa, 31,933 cases, 1,423 deaths, and 9,566 recoveries were reported as of April 27, 8:00 AM EAT
- In South Africa, early lockdown, mass screening and involvement of the private sector are credited for reducing the impact of the pandemic so far.
- The accuracy of antibody testing continues to be controversial although recommended for assisting on return to work.
- The US NIH recommends **against** the use **Hydroxychloroquine and azithromycin combination** because of potential toxicity
 - If using hydroxychloroquine or chloroquine, NIH recommends monitoring for QTc prolongation.
 - NIH also recommends against the use of **Lopinavir/ritonavir or other HIV protease inhibitors** because of unfavourable pharmacodynamics and negative clinical trial data
- Vaccine development research is progressing as would be expected. As of 26th April 2020, there are 7 candidate vaccines in clinical evaluation and 82 candidate vaccines in preclinical evaluation. But there are concerns that poor people may not get the vaccine even within high income countries. This is a warning for African countries that they should device a mechanism to ensure access to effective vaccine to their population.

Recommendations

- The number of new cases and deaths continues to fluctuate. No grounds for Africa to let its guard down despite the lower numbers—very important to learn from the reopening practices of countries that were affected by the pandemic first before reopening is considered.
- Until further evidence, considering the potential toxicity, it seems reasonable to adapt the NIH recommendation of not using hydroxychloroquine and azithromycin combination.
- If hydroxychloroquine or chloroquine used, QTc prolongation needs to be assessed, especially for those over the age of 50 as well as co-morbidities.
- While convalescent plasma therapy is being used on compassionate grounds in countries heavily affected by the pandemic, there is still insufficient evidence to confidently recommend it as an evidence-based therapy.

- Balanced information should be offered to the public so that the public is clear that **there is no evidence-based treatment globally**. That the treatments being offered are based on anecdotal evidence and there is a shared risk to patients and providers.
- Actively explore opportunities for Africa to be engaged in clinical trials of vaccines as a contribution to product development and as an opportunity for access to vaccines when made available.

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

Global

- Approximately, 3 million (2,995,152) people are infected with novel coronavirus worldwide causing 207,008 deaths as of April 27, 5:00 GMT.
- The percentage of recoveries also slightly increased to 881,510 (81%; was 80% last week).
- The total number of new cases on April 24th was the highest number of cases (105,825) reported in a single day since the pandemic started.
- However, the number of new cases (73,858 cases) reported in the past 24 hours is a marked reduction.
- In the same pattern, the number of new deaths (3,751 deaths) reported on April 26th also reduced almost by half as compared to reports on April 25th (6,069 cases) and April 24th (6,180 cases).
- One third of the total cases (n=987,322; 33.2%) in the world were reported from USA. New York continues to be the most affected state with a total number of 293,991 cases.
- Even though the highest number of new cases were reported on April 24th, both the number of new cases and new deaths in USA is decreasing since then; with a total of 35,419 new cases and 2,065 deaths on April 25th and 26,505 new cases and 1,157 deaths on April 26th.
- As of April 27th, 5:00 GMT, a total of 55,415 people have died with coronavirus in the USA and almost half 22,275 (40.2%) of these deaths occurred in New York state.
- Next to the USA, Spain (226,629), Italy (197,675), France (162,100) and Germany (157,770) continue to be the other most affected countries worldwide.
- Other countries with high number of deaths include Italy (26,644), Spain (23,190), France (22,856) and United Kingdom (20,732) which in total accounted for almost half (48.8%) of total deaths worldwide.

Africa

- In Africa, a total of 31,933 COVID-19 cases, 1,423 deaths, and 9,566 recoveries were reported as of April 27, 8:00 AM EAT.
- The highest number of cases is reported from South Africa (4,546) followed by Egypt (4,534), Morocco (4,065), Algeria (3,382) and Cameroon (1,621).

- Almost two third [63.5%; n=903) of the total deaths in the continent were reported from three countries namely; Algeria (425), Egypt (317) and Morocco (161).
- Even though, South Africa is the leading country with high number of cases in the continent, the number of deaths that occurred until now (87) is relatively low compared to other African countries. According to a recent report on BMJ, the reason for South Africa's early success against coronavirus includes;
 - Physical distancing and early lockdown which significantly delayed the transmission. Total lockdown was declared on March 27 which means within 22 days after the first corona case was reported, only 402 cases and no deaths were reported in the country.
 - Mass screening using community health workers; upto 900,000 people were screened within the first weeks of April and 3.8% of them were positives.
 - Involvement of private sectors, which significantly contributed in the laboratory tests performed in the country. In the period before lockdown, 80% of tests were done by the private sector. Currently, 6000 tests are being performed in a day.
 - Expansion of testing capacity which includes 67 mobile laboratories and 325 GeneXpert machines available at 166 facilities.
 - There is a plan from May 1st to move the country to lockdown level 4, which allows the opening of mines and some businesses, outdoor exercise, and the sale of cigarettes. The ban on alcohol sales and the stay at home order remains. But the crisis is far from over, as the country expects another spike in cases once the lockdown lifts. Therefore, in the coming weeks, there could be a differentiated restriction approach based on the number of infections in an area [Wadvalla, B. 2020]

Ethiopia

- In the last three days, 2,919 additional laboratory tests were conducted; of this seven of them were confirmed to be positive for COVID-19 raising the total number of cases to 124.
- Out of the seven additional cases, four of them are Chinese, one British (Ethiopian origin) and the other two are Ethiopians.
- Majority (5/7) of these cases are males and four of them were reported from Sebeta while the other two from Addis Ababa and one from Jigjiga.
- According to the Ministry of Health report, additional 25 people (24 from Addis Ababa and one from Bahir Dar) recovered from the disease making the total number of recoveries to 50.
- So far, 14,588 laboratory tests were done and a total of 124 confirmed cases, 3 deaths and 50 recoveries were reported as of April 27, 4:00 PM EAT.
- Currently, all of the active cases (69) are having mild form of the disease and receiving medical care their respective treatment centers.

Update on Diagnosis

- According to FIND diagnostics, as of 27th April 2020 [11:00am, EAT], there are 247 molecular assay tests commercialized and 43 tests under development for COVID-19. Also there are, 247 immunoassay tests commercialized and 45 tests under development (FIND, 2020).
- Experts are suggesting targeted sero-surveillance paired with RT-PCR testing to assist with decision on return to 'business' (Krsak et al., 2020). However, the accuracy of the currently available antibody tests is still in question with mixed results (Infantino et al., 2020).
- A meta-analysis from Brazil highlighted that the rate of false negative results from tests which detect SARS-CoV-2 IgM antibodies, used for detection of COVID-19 in the acute phase, ranged from 10 to 44% (Castro et al., 2020).

Update on Treatment

- The COVID-19 Treatment Guidelines Panel developed by US NIH recommends against the use of Hydroxychloroquine/azithromycin and Lopinavir/ritonavir except in the context of a clinical trial. This is because of the potential for toxicities caused by hydroxychloroquine / azithromycin combination and because of unfavourable pharmacodynamics and negative clinical trial data of Lopinavir/ritonavir(US NIH, 2020).
- The U.S. Food and Drug Administration issued a Drug Safety Communication regarding known side effects of hydroxychloroquine and chloroquine, including serious and potentially life-threatening heart rhythm problems, that have been reported with the use for the treatment or prevention of COVID-19. These risks, which are in the drug labels for their approved uses, may be mitigated when health care professionals **closely screen and supervise these patients** such as in a hospital setting or a clinical trial, as indicated in the Emergency Use Authorization (EUA) (US FDA, 2020).

Update on Vaccine

- According to WHO as of 26th April 2020, there were 7 candidate vaccines in clinical evaluation and 82 candidate vaccines in preclinical evaluation(WHO, 2020a).
- Last Friday Global leaders came together at a virtual event, co-hosted by the World Health Organization, pledging to ensure everyone everywhere can access new vaccines, tests and treatments for COVID-19. Among the leaders in attendance were, the President of France, the President of the European Commission, and the Bill & Melinda Gates Foundation. The event was also joined by the UN Secretary General, the AU Commission Chairperson, the G20

President, heads of state of France, South Africa, Germany, Vietnam, Costa Rica, Italy, Rwanda, Norway, Spain, Malaysia and the UK (represented by the First Secretary of State)(WHO, 2020b).

Update on personal protective equipment

Face mask use

- There is some concern that most nations are not receiving clear and concise instructions about public masking from public health authorities and called on WHO and country-level public health leaders to urgently consider revising their policies on mass masking to facilitate implementation of appropriate interventions in communities around the world (Keshtkar-Jahromi et al., 2020).
- In a new study, the filtration efficiencies of various commonly available fabrics including cotton, silk, chiffon, flannel, various synthetics, and their combinations was measured for use as cloth masks in filtering particles of size ranging from ~10 nm to ~6 µm. The results showed that cotton, natural silk, and chiffon can provide good protection, typically above 50%, provided they have a tight weave. Higher threads per inch cotton with tighter weaves resulted in better filtration efficiencies. Materials such as silk and chiffon were found to be particularly effective at excluding particles <~100 nm, which could be due to electrostatic effects that result in charge transfer with nanoscale aerosol particles. Hybrid combinations of cloths such as high threads-per-inch cotton along with silk, chiffon, or flannel can provide broad filtration coverage across both the nanoscale (<300 nm) and micron scale (300 nm to 6 µm) range, likely due to the combined effects of electrostatic and physical filtering. The findings indicated if the mask is not properly fitted the efficiencies can decrease by ~50% or more(Konda et al., 2020).

Psychosocial wellbeing of health professionals during COVID 19 outbreak

Meeting the Mental Health Challenge of the COVID-19 Pandemic

- The psychiatric times has published multiple articles about COVID 19 pandemic and mental health challenges. The PPE adds to the barrier to provide emotional support to patients. Additionally, because patients are not accompanied by their loved ones, the health professionals become the ones that have to receive important and personal messages as well as the last words. This is emotionally taxing and stressful for the health professional (Washington post, 2020).

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