



Update: 4th-7th August, 2020

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

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Summary

- Worldwide, 19,287,951 cases, 718,295 deaths and 12,381,635 recoveries were reported as of August 7, 10:00 GMT.
- In Africa, infections with corona virus has reached more than one million (1,007,366) and 22,066 deaths and 690,436 recoveries are reported as of August 7th 4:00 PM EAT.
- The accuracy of current tests, including the standard RT-PCR test based on nasopharyngeal swabs remains unsatisfactory. Measuring test sensitivity in asymptomatic people is an urgent priority.
- Malaria shares some of the highly recognisable symptoms with COVID-19 such as: fever, difficulty in breathing, fatigue and headaches of acute onset. In children, respiratory distress may also mimic COVID-19. This may lead to misclassification in malaria endemic areas.
- According to a modelling study, interruption of Supply of ART drugs may increase HIV related deaths and mother to child transmission. New HIV infections may also rise.
- COVID-19 lockdown is a risk factor for increasing alcohol consumption in people with alcohol use disorders and relapse for those who were previously abstinent.

Recommendations

- Although diagnostic testing will help in safe reopening, diagnostic tests have to be highly sensitive and validated under realistic conditions against a clinically meaningful reference standard.
- Clinicians should not trust unexpected negative results (i.e., assume a negative result is a “false negative” in a person with typical symptoms and known exposure).
- Designing a reference standard for measuring the sensitivity of SARS-CoV-2 tests in asymptomatic people is an unsolved problem that needs urgent attention.
- Caution is required about potential misclassification between malaria and COVID-19 in malaria endemic areas. Studies to clarify this are also needed.
- Ensuring continuation of routine care, particularly for conditions like HIV, is essential.

Update on pathogenesis

- A modelling study was conducted with the aim of estimating the effect of disruptions to HIV prevention, testing, and treatment services due to COVID-19 pandemic in sub-Saharan Africa. The study found that, if supply of ART drugs is interrupted for six months across 50% of the population of people living with HIV:
 - HIV-related deaths over a 1-year period will increase by 1.63 times and mother-to-child transmission of HIV will approximately increase by 1.6 times.
 - Interruption to condom supplies and peer education would also increase new HIV infections up to 1.19 times over a 1-year period.
- Therefore, the study concluded that the primary priorities for governments, donors, suppliers, and communities should be maintaining constant supply of ART drugs for people living with HIV in order to prevent additional HIV related deaths and new infections [Jewell, B. L., 2020].
- COVID-19 lockdown represents a risk factor for increasing alcohol consumption in people with alcohol use disorders and relapse for those who were previously abstinent.
 - A small cross-sectional telephone survey [with 182 people with pre-existing alcohol disorders] was conducted in the alcohol clinic of St Mary's Hospital, London.
 - Of the 182 participants, 43 (24%) reported an increase in their alcohol intake, with a mean increase in the AUDIT score of 57.6%, and a mean weekly consumption of 82.5 units (SD 78).
 - Pre- lockdown AUDIT score and percentage change of AUDIT score from before to during lockdown were identified as factors associated with increased alcohol intake during lockdown.
 - 69 (38%) patients were classified as abstinent before lockdown and of this subgroup, 12 (17%) relapsed during lockdown.
 - Among all participants, only 55 (30%) had either a virtual or face-to-face contact with the clinic during lockdown [Jin Un Kim, A. M., 2020].

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

- Novel coronavirus affected 213 countries and territories around the world causing 19,287,951 cases, 718,295 deaths and 12,381,635 recoveries as of August 7, 10:00 GMT.

- The five most affected countries with high number of cases and deaths are United States of America (5,032,805 cases & 162,812 deaths), Brazil (2,917,562 cases & 98,644 deaths), India (2,030,001 cases & 41,673 deaths), Russia (877,135 cases & 14,725 deaths) and South Africa (538,184 cases & 9,604 deaths).
- In Africa, more than one million (1,007,366) people are infected with corona virus and 22,066 deaths and 690,436 recoveries are reported as of August 7th 4:00 PM EAT.
- Consistently, South Africa is the leading country in Africa with a total number of 538,184 cases and 9,604 deaths. Egypt is the second most affected country (95,006 cases) followed by Nigeria (45,244 cases), Ghana (40,097 cases) and Algeria (33,626 cases).
- In Ethiopia, a total of 31,495 laboratory tests were carried out in the last four days and 2,194 additional cases were identified in the country.
- The ministry reported that 1,426 people are fully recovered from the disease, while 55 people passed away in the last four days raising the total number of deaths to 365.
- So far, a total 468,814 laboratory tests were conducted and 20,900 confirmed cases, 365 deaths and 9,027 recoveries were reported in the country as of August 7th, 2020.

Update on Diagnosis

- One article, a perspective, noted that widespread SARS-CoV-2 testing is essential to safely reopening (the United States). With the issue of test accuracy being still ongoing concern, it reported that diagnostic tests (typically involving a nasopharyngeal swab) can be inaccurate in two ways. A false positive result erroneously labels a person infected, with consequences including unnecessary quarantine and contact tracing. On the other hand, false negative results are indicated to be more consequential since because infected persons — who might be asymptomatic — may not be isolated and can infect others. Hence, the need to review assessment of test accuracy by the regulatory authority and clinical researchers, as well as interpretation of test results in a pandemic. It was indicated that sensitivity, and its measurement, may vary with the clinical setting and that designing a reference standard for measuring the sensitivity of SARS-CoV-2 tests in asymptomatic people is an unsolved problem that needs urgent attention to increase confidence in test results for contact-tracing or screening purposes. In this article few studies conducted on sensitivity of diagnostic tests were presented and the following conclusions were drawn:

- Diagnostic testing will help in safely opening the country, but only if the tests are highly sensitive and validated under realistic conditions against a clinically meaningful reference standard.
- The FDA should ensure that manufacturers provide details of tests' clinical sensitivity and specificity at the time of market authorization; tests without such information will have less relevance to patient care.
- Measuring test sensitivity in asymptomatic people is an urgent priority.
- Negative results even on a highly sensitive test cannot rule out infection if the pre-test probability is high, so clinicians should not trust unexpected negative results (i.e., assume a negative result is a "false negative" in a person with typical symptoms and known exposure). It's possible that performing several simultaneous or repeated tests could overcome an individual test's limited sensitivity but that such strategies need validation.
- Thresholds for ruling out infection need to be developed for a variety of clinical situations. Since defining these thresholds is a value judgment, public input will be crucial (Woloshin et al., 2020).

Update on treatment

- A randomized, controlled clinical trial evaluating the safety and efficacy of a treatment regimen consisting of the antiviral remdesivir plus the immunomodulator interferon beta-1a in patients with coronavirus disease 2019 has begun. The study, called the Adaptive COVID-19 Treatment Trial 3 (ACTT 3), is anticipated to enrol more than 1,000 hospitalized adults with COVID-19 at as many as 100 sites in the United States and abroad. Adaptive COVID-19 Treatment Trial (ACTT) began in Feb with evaluating remdesivir, an investigational broad-spectrum antiviral. A preliminary analysis of the data found that patients who received remdesivir had a statistically significant shorter time to recovery compared to patients who received placebo (Beigel, Tomashek et al. 2020). The second iteration of the Adaptive COVID-19 Treatment Trial, ACTT 2, began on May 8 to evaluate the safety and efficacy of remdesivir plus the anti-inflammatory drug baricitinib for treating hospitalized adults with COVID-19. Baricitinib is approved in the U.S. and more than 65 other countries as a treatment for adults with moderately to severely active rheumatoid arthritis. ACTT 2 closed to enrolment on June 30 after recruiting 1,034 participants. ACTT 3 is the third iteration of NIAID's (ACTT). Subcutaneous interferon beta-1a, is approved in the U.S. and more than 90 other countries for the treatment of multiple sclerosis. Infected cells normally produce type 1 interferons to help the immune system fight pathogens,

especially viruses. Interferon beta has both antiviral and anti-inflammatory properties. Laboratory studies suggest that the normal interferon response is suppressed in some people after infection with SARS-CoV-2. In addition, two small randomized controlled trials suggest that treatment with interferon beta may benefit patients with COVID-19. ACTT 3 Participants must have laboratory-confirmed SARS-CoV-2 infection with evidence of lung involvement, including a need for supplemental oxygen, abnormal chest X-rays, or illness requiring mechanical ventilation. People with confirmed infection who have mild symptoms or no apparent symptoms will not be included in the study. Moreover ACTT 3 participants are being randomly assigned in a 1-to-1 ratio to receive either subcutaneous interferon beta-1a plus remdesivir (combination therapy) or remdesivir alone. All participants will receive standard doses of remdesivir and either interferon beta-1a or a placebo. Those in the combination therapy group will receive interferon beta-1a as a 44-microgram subcutaneous injection every other day for a total of four doses during hospitalization. Those in the remdesivir-only group will receive a matching placebo subcutaneous injection every other day for a total of four doses during hospitalization(Us NIH 2020).

Update on personal protective equipment

Face mask use

- A commentary published in the Lancet Respiratory Medicine highlights the uncertainties around the continuing uncertainty about universal masking concludes that “the current best evidence includes the possibility of important relative and absolute benefits of wearing a facemask”. Paper highlights the need for considering context, and that face mask should be recommended “in high baseline risk settings where it might be difficult to maintain physical distancing, such as work and school environments”. The need for robust studies on the benefit of face mask is highlighted (Schünemann et al., 2020).

Psychosocial wellbeing updates

Health workers wellbeing during COVID 19 pandemic

- Support from the employer, individual’s coping ability, altruism and self-efficacy are considered protective from the psychological problems resulting from the pandemic.

Lessons from previous pandemics recommends focusing on the social and organisational support to reduce impact of a pandemic on health workers (Schneider J, et al. 2020)

- A study on doctors in Italy reported that they 93.8% have psychological distress and poor well-being of 58.9%. Female gender, caring for COVID 19 patients are the risk factors to experience psychological distress. This study was a cross sectional study with a response rate of 32.45% (De Sio, et al. 2020)

Reference list

- African Union; COVID -19 updates. <https://au.int/en/covid19>
- Beigel, J. H., K. M. Tomashek, L. E. Dodd, A. K. Mehta, B. S. Zingman, A. C. Kalil, E. Hohmann, H. Y. Chu, A. Luetkemeyer, S. Kline, D. Lopez de Castilla, R. W. Finberg, K. Dierberg, V. Tapson, L. Hsieh, T. F. Patterson, R. Paredes, D. A. Sweeney, W. R. Short, G. Touloumi, D. C. Lye, N. Ohmagari, M.-d. Oh, G. M. Ruiz-Palacios, T. Benfield, G. Fätkenheuer, M. G. Kortepeter, R. L. Atmar, C. B. Creech, J. Lundgren, A. G. Babiker, S. Pett, J. D. Neaton, T. H. Burgess, T. Bonnett, M. Green, M. Makowski, A. Osinusi, S. Nayak and H. C. Lane (2020). "Remdesivir for the Treatment of Covid-19 — Preliminary Report." New England Journal of Medicine.
- Center of Disease Control and Prevention Africa <https://africacdc.org/covid-19-update/>
- De Sio S, Buomprisco G, La Torre G, Lapteva E, Perri R, Greco E, Mucci N, Cedrone F. The impact of COVID-19 on doctors' well-being: results of a web survey during the lockdown in Italy. European Review for Medical and Pharmacological Sciences. 2020;24:7869-79.
- Ethiopian Public Health Institute CoronaVirus Update; <https://www.ephi.gov.et/index.php/public-health-emergency/novel-corona-virus-update>
- Jewell, B. L., Mudimu, E., Stover, J., ten Brink, D., Phillips, A. N., Smith, J. A., . . . Kelly, S. L. (2020). Potential effects of disruption to HIV programmes in sub-Saharan Africa caused by COVID-19: results from multiple mathematical models. The Lancet HIV. doi: 10.1016/s2352-3018(20)30211-3
- Jin Un Kim, A. M., Rebekah Judge, Peter Crook, Rooshi Nathwani, Nowlan Selvapatt, James Lovendoski, Pinelopi Manousou, Mark Thursz, Ameet Dhar, Heather Lewis, Nikhil Vergis, Maud Lemoine. (August 4, 2020). Effect of COVID-19 lockdown on alcohol consumption in patients with pre-existing alcohol use disorder. The Lancet doi: 10.1016/S2468-1253(20)30251-X 10.1002/hep.31307
- John Hopkins, Corona Virus Resources <https://coronavirus.jhu.edu/map.html>
- Schneider J, Talamonti D, Gibson B, Forshaw M. Factors Mediating the Psychological Well-being of Healthcare Workers Responding to Global Pandemics: A Systematic Review.

- SCHÜNEMANN, H. J., AKL, E. A., CHOU, R., CHU, D. K., LOEB, M., LOTFI, T., MUSTAFA, R. A., NEUMANN, I., SAXINGER, L., SHAHNAZ SULTAN & MERTZ, D. 2020. Use of facemasks during the COVID-19 pandemic. *Lancet Respir Med*.
- Us NIH. (2020). "NIH clinical trial testing remdesivir plus interferon beta-1a for COVID-19 treatment begins." from <https://www.nih.gov/news-events/news-releases/nih-clinical-trial-testing-remdesivir-plus-interferon-beta-1a-covid-19-treatment-begins>.
- WOLOSHIN, S., PATEL, N. & KESSELHEIM, A. S. 2020. False Negative Tests for SARS-CoV-2 Infection — Challenges and Implications. *New England Journal of Medicine*, 383, e38.
- World Health Organization: <https://www.who.int/images/default-source/health-topics/coronavirus/>
- Worldometer, Corona Virus <https://www.worldometers.info/coronavirus/>