Update: May 28 & 29, 2020

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

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Summary

As of May 29, 12:00 GMT, approximately, six million (5,935,032) people are infected with corona virus worldwide causing 362,756 deaths and 2,602,565 recoveries.

- The total number of new cases reported in the last 24 hours has increased as opposed to the number of deaths which slightly decreased.
- As of May 29, 4:00 PM EAT, a total of 129,565 cases, 3,790 deaths and 53,414 recoveries were reported in Africa.
- An active or previous malignancy increases risk of death (13% of these patients had died at 30 days of follow up). Increased age, male sex, smoking status, two or more comorbidities and having active cancer were associated with higher mortality rate.
- WHO continues to recommend breastfeeding although SARS-CoV-2 was found in a breast milk of a nursing mother applying all precautions such as wearing face masks, washing hands before and after touching the baby and routinely cleaning and disinfecting surfaces.
- A study comparing a 5-days vs 10-days course of remdesivir found no difference between the two treatment durations in clinical status at day 14. The study recommends a 5-day remdesivir regimen for patients at the early stages of the disease, particularly in the context of limited supply of remdesivir.
- Wearing of face mask by the primary case and family contacts before the primary case developed symptoms was 79% effective in reducing transmission. However, wearing a mask after illness onset of primary case was not significantly protective.

Recommendations

- Precautionary mask use, social distancing and regular disinfection in the household may help prevent household transmission. Families of high-risk groups such as health workers, and quarantined individuals may benefit from these precautionary measures
- WHO has recommended continued breastfeeding with the additional precautions (face mask, hygienic practices)
- Remdesivir given for 5-days is as effective as that given for 10-days, adjusting for baseline severity. But caution is needed for those with more severe illness. Although

comparable outcomes reported at 14 days, those who received the 10-days course had more severe illness at baseline.

Update on pathogenesis

COVID-19 and Cancer

- A study by a group from USA, Canada and Spain that calls itself COVID-19 and Cancer Consortium (CCC19) has published its result among 928 patients with active or previous malignancy, aged 18 years and older, with confirmed SARS-CoV-2 infection. The researchers collected baseline clinical conditions, medications, cancer diagnosis and treatment, and COVID-19 disease course. The primary endpoint was all-cause mortality within 30 days of diagnosis of COVID-19:
  - ➢ The mortality rate among these patients was high (13% of patients had died at the 30 days of follow up).
  - ➢ Other independent factors associated with higher mortality included; increased age, male sex, smoking status, two or more comorbidities and having active cancer [Nicole M, 2020].

COVID-19 and Breast feeding

- WHO still recommends that mothers with COVID-19 can breastfeed applying all precautions such as wearing face masks, washing hands before and after touching the baby and routinely cleaning and disinfecting surfaces [WHO, 2020]. A previous report of two mothers with COVID-19 had reported that the virus was detected in the breastmilk of one of the mothers whose new born also had positive test result [Groß, R., 2020]. However, the modality of transmission was unclear, i.e., so far, no conclusive evidence has associated transmission in breastmilk. Further studies are recommended.

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

Global

- As of May 29, 12:00 GMT, approximately, six million (5,935,032) people are infected with corona virus worldwide causing 362,756 deaths and 2,602,565 recoveries.
- The total number of new cases reported in the last 24 hours (116,304 new cases) is significantly higher than the previous day report (106,475 new cases). In contrast, the number of new deaths is slightly decreased from 5,283 deaths on May 27th to 4,612 on May 28th.

- Persistently, the highest number of cases (1,768,608) and deaths (103,344) were reported from United States of America (USA) which accounted for 29.8% of total cases and 32.1% of total deaths in the world.
- Comparing the last two days' report, the number of new cases in USA is marginally increased from 20,546 cases on May 27th to 22,658 on May 28th. Conversely, the number of new deaths is decreased from 1,535 to 1,223 on May 28th. Some have questioned whether this might be due to gaps in reporting.
- Brazil (438,812), Russia (387,623), Spain (284,986) and United Kingdom (269,127) are among the five countries with high number of corona cases in the world.
- Countries, other than the USA, with high number of deaths from COVID -19 include; UK (37,837), Italy (33,142), France (28,662), Spain (27,119) and Brazil (26,764).

Africa

- As of May 29, 4:00 PM EAT, a total of 129,565 cases, 3,790 deaths and 53,414 recoveries were reported.
- The highest number of cases is reported from South Africa (27,403) followed by Egypt (20,793), Algeria (8,997), Nigeria (8,915) and Morocco (7,697).
- In South Africa, the highest number (1,673) of new cases was reported on May 27th and this number is slightly decreased to 1,466 on May 28th.
- In the last two days, the number of new cases was increased in Egypt (910 to 1,127) and Morocco (24 to 42) while it's reduced in Algeria (160 to 140) and Nigeria (389 to 182).
- Persistently, more than two third 2,688 (70.9%) of the total deaths in the continent were reported from six countries namely; Egypt (845), Algeria (630), South Africa (577), Nigeria (259), Morocco (202) and Cameroon (175).

Ethiopia

- Among the 9,965 total laboratory tests carried out in the last 48 hours, 237 additional COVID-19 cases were identified in the country raising the total number of cases to 968.
- All of the additional cases are Ethiopians except one person with Burundi Citizen , their age ranges from 3 to 75 years and more than half 139 (58.6%) of them are males.
- Out of the 237 additional cases, 23 of them have travel history and 43 have contact history with confirmed COVID-19 case while the rest 171 have no travel or contact history.
- Majority 203 (85.7%) of these cases were reported from Addis Ababa, 17 from Amhara, 11 from Oromia, 2 from Somali, 2 from Benshangul Gumuz and 1 from Tigray region.

- The ministry also reported that additional 16 people from Addis Ababa are fully recovered from the disease raising the total number of recoveries to 197. In addition, a 70 years old female and 62 years old male Ethiopian who were being treated for other chronic medical conditions were randomly tested for COVID-19. However, both of these cases have passed away on May 28th and May 29th respectively.
- Therefore, a total of 101, 581 laboratory tests were conducted and 968 confirmed cases, 8 deaths and 197 recoveries were reported as of May 29, 4:00 PM EAT.
- Out of the total 761 active cases, four 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

- The diagnostic performance of an immunochromatography-based assay of human serum for COVID-19 was evaluated in one study. 149 subjects who had been tested by RT-PCR for COVID-19 were enrolled and classified into two groups: 70 who tested positive and 79 who tested negative. An immunochromatography-based COVID-19 IgG/IgM rapid test on the sera of the study population was applied to measure the sensitivity, specificity, positive predictive value (PPV) and negative predictive value (NPV). IgM or IgG antibodies were detected in 65 subjects (92.9%) classified as positive for COVID-19 and in 3 subjects (3.8%) classified as negative for COVID-19. The sensitivity and specificity percentages for IgM or IgG antibodies were 92.9% and 96.2%, respectively, with 95.6% PPV and 93.8% NPV. The PPV rapidly improved with increasing disease prevalence from 19.8% to 96.1% in the presence of either IgM or IgG, while the NPV remained high with a change from 99.9% to 93.1%. It was indicated, the immunochromatography-based COVID-19 IgG/IgM rapid test is a useful and practical diagnostic assay for detection of COVID-19, especially in the presence of IgM or IgG antibodies (Choe et al., 2020).

Update on treatment

- A randomized, open-label, phase 3 trial that compared a 5-days vs a 10-days course of remdesivir did not find significant difference between the 2 courses. The study enrolled 397 patients from 55 hospitals in the United States, Italy, Spain, Germany, Hong Kong, Singapore, South Korea, and Taiwan with

confirmed SARS-CoV-2 infection, with oxygen saturation of 94% or less while they were breathing ambient air, and who had radiologic evidence of pneumonia. Patients were randomly assigned in a 1:1 ratio to receive intravenous remdesivir for either 5 days (n= 200) or 10 days (n= 197). All patients received 200 mg of remdesivir on day 1 and 100 mg once daily on subsequent days. The primary end point was clinical status on day 14, assessed on a 7-point ordinal scale. The investigators noted that at baseline, patients randomly assigned to the 10-day group had significantly worse clinical status than those assigned to the 5-day group (P = 0.02). After adjustment for baseline clinical status, patients in the 10-day group had a distribution in clinical status at day 14 that was similar to that among patients in the 5-day group (P = 0.14). Treatment with remdesivir beyond 5 days among patients who were receiving noninvasive positive-pressure ventilation or high-flow oxygen, receiving low-flow oxygen, or breathing ambient air did not appear to improve outcomes. Thus, according to the study, patients with severe COVID-19 not requiring mechanical ventilation did not show a significant difference between a 5-day course and a 10-day course of remdesivir. The absence of a control group in this study did not permit an overall assessment of the efficacy of remdesivir. In the era of limited remdesivir supplies, priority should be given to a 5-day remdesivir regimen for patients at the early stages of severe disease (i.e., when they are receiving supplemental oxygen but have not yet been intubated), since the evidence for benefit is clearest in this population. (Dolin and Hirsch 2020, Goldman, Lye et al. 2020).

Update on personal protective equipment

Face mask use

- A retrospective cohort study was conducted involving families of laboratory confirmed COVID-19 cases in Beijing, China. The family members were those who had lived with primary cases in a house 4 days before and for more than 24 hours after the primary cases developed illness related to COVID-19. The study included 124 families. To

explore whether face masks might make a difference, 460 people were questioned on their household hygiene and behaviours during the pandemic. The family size ranged from 2 to 9 and the average 4. The results showed the overall secondary attack rate in families was found to be 23.0%. Face mask use by the primary case and family contacts before the primary case developed symptoms was 79% effective in reducing transmission. However, wearing a mask after illness onset of primary case was not significantly protective. Daily use of chlorine or ethanol-based disinfectant in households was 77% effective. The risk of household transmission was 18 times higher with frequent daily close contact with the primary case such as such as eating around a table or sitting together watching TV, and four times higher if the primary case had diarrhoea and household crowding was found to be insignificant. The authors noted that there may be recall bias and also that this is the first study to show effectiveness of precautionary mask use, social distancing and regular disinfection in the household, and can inform guidelines for prevention of household transmission. They also stated the findings may also be informative for families of high-risk groups such as health workers, quarantined individuals or situations where cases of COVID-19 have to be managed at home (Wang et al., 2020).

- Articles continue to emerge on the issues of public mask wearing. The author, in one new commentary, states there is no valid scientific evidence to support the assertion that the use of a face mask in the community may impose a higher risk of infection on the ground of improper use or false sense of security and that policy makers must rely on best available evidence rather than awaiting strongest evidence when devising urgent policies that can potentially save human lives(Chan, 2020). Another article, letter to the editor, also notes that decision making should be based on scientific knowledge, but when knowledge is incomplete, as in the current pandemic, judgments based on precaution and pragmatism become increasingly necessary (Middleton and Lopes, 2020). To the contrary, others argue the potential negative unintended consequences of a policy shift deserve more consideration (Martin et al., 2020).

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