



Update: 25 & 26 June, 2020

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

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Summary

- Globally, more than 9.7 million (9,730,246) people are infected with novel coronavirus causing 492,216 deaths and 5,264,190 recoveries as of June 26, 10:00 GMT. 179,718 new cases were reported within past 24 hours.
- As of June 26th, 3:00 PM EAT, a total of 337,315 cases, 8,863 deaths and 161,254 recoveries were reported in Africa.
- Blood group specific analysis showed a higher risk of COVID-19 infection in blood group A than in other blood groups and a protective effect in blood group O as compared with other blood groups.
- Result of a retrospective cohort study on tocilizumab revealed that there was a significant reduction in risk of invasive mechanical ventilation or death at day 14 from hospital admission with a major concern of adverse events like infection. The study design and short follow-up period were stated as a drawback of the study.
- A trial that studies the use of saltwater (hypertonic saline) in the treatment of COVID-19 is to be studied by researchers in Scotland. This study will determine if nasal washouts and gargling with salty water are helpful in COVID-19.
- A study involving 21,000 HCWs with infection in the US indicated that 38% of HCWs were infected from the community, 22% from fellow HCWs and 40% did not have a clear source.
- Consistent use of PPEs by all health care providers and universal masking was found to be advantageous in decreasing the risk of transmission.
- Additional study indicated face covers/scarfs/masks and surface covers reduces COVID-19 environmental droplet contamination and thus the risk of transmitting/acquiring COVID-19.

Update on pathogenesis

Risk factors

- A genome wide association study was done among 1,610 COVID-19 cases with severe form (respiratory failure) and 2,205 controls from Italy and Spain hospitals. The study included 835 patients and 1255 controls from three hospitals in Italy and 775 patients and 950 controls from four hospitals in Spain. A total of 8,965,091 Single-nucleotide Polymorphisms (SNPs) were included in the Italian cohort and 9,140,716 SNPs in the Spanish cohort for the final analysis.
- The study identified two significant SNPs at genome wide level; rs11385942 at locus 3p21.31 with OR - 1.77; $P = 1.15 \times 10^{-10}$) and rs657152 at locus 9q34.2 with OR - 1.32, $P = 4.95 \times 10^{-8}$.

- The association signal at locus 9q34.2 coincided with the ABO blood group (three ABO SNPs namely; rs8176747, rs41302905, and rs8176719 were selected).
- Blood group specific analysis showed a higher risk of COVID-19 infection in blood group A than in other blood groups (OR- 1.45; $P = 1.48 \times 10^{-4}$) and a protective effect in blood group O as compared with other blood groups (OR, 0.65; 95%; $P = 1.06 \times 10^{-5}$) [Ellinghaus, D., et al, 2020].

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

Global

- Currently, more than 9.7 million (9,730,246) people are infected with novel coronavirus causing 492,216 deaths and 5,264,190 recoveries as of June 26, 10:00 GMT.
- Out of the total active cases, only 57,394 (1%) are in critical/ serious condition while the rest are having mild and moderate form of the disease.
- Additional 179,718 corona cases were reported within 24 hours which is higher than the previous' day report (173,654 new cases). Similarly, the number of new deaths is marginally increased from 5,079 on June 24th to 5,179 on June 25th.
- In United States of America (USA), more than 2.5 million (2,504,676) people are infected with corona virus and likewise, the country reported the highest number of deaths (126,785 deaths) as of June 26th 10:00 GMT.
- The number of new cases in USA is significantly increased from 38,390 on June 24th to 40,184 on June 25th which is the highest number of cases reported so far. In contrast, the number of new deaths is marginally decreased (812 to 649) within these two days.
- New York is the most affected state with a total of 414,274 cases and 31,373 deaths followed by California (201,004 cases & 5,809 deaths) and New Jersey (175,346 cases & 15,012 deaths).
- Other countries with high number of COVID-19 cases and deaths include; Brazil (1,233,147 cases & 55,054 deaths), Russia (620,794 cases & 8,781 deaths), India (491,741 cases & 15,319 deaths) and United Kingdom (307,980 cases & 43,230 deaths).

Africa

- As of June 26th, 3:00 PM EAT, a total of 337,315 cases, 8,863 deaths and 161,254 recoveries were reported in Africa.
- The number of corona cases in South Africa is persistently increasing and a total of 118,375 cases are reported in the country, which accounted for more than one third (35.1%) of total cases reported in the continent. The number of new cases (6,579) reported within 24 hours

is significantly higher than the previous day report (5,688 new cases), while the number of new deaths decreased from 103 to 87.

- Egypt (61,130 cases), Nigeria (22,614 cases), Ghana (15,473 cases), Cameroon (12,592 cases) and Algeria (12,445 cases) are other African countries with high number of corona cases.
- More than three fourth [n=7,121 (80.3%)] of total deaths in the continent were reported from few countries namely; Egypt (2,533), South Africa (2,292), Algeria (878), Sudan (556), Nigeria (549) and Cameroon (313).

Ethiopia

- According to the Ministry of Health report, a total of 10,089 laboratory tests were carried out within 48 hours and 391 additional COVID-19 cases were identified in the country.
- Three hundred seventy nine (379) of the additional cases are Ethiopians while the rest 12 are foreign nationals. The age of these cases ranges from 2 months to 90 years and almost two third 239 (61.2%) of them are males.
- Around three fourth 290 (74.2%) of these cases were reported from Addis Ababa, 20 from Amhara, 21 from Tigray, 23 from Oromia, 2 from Dire Dawa, 2 from Benshangul, 6 from Somali, 21 from Gambella and 6 from Hareri region.
- The ministry also reported that additional 202 people (167 from Addis Ababa, 7 from Amhara, 10 from Oromia, 8 from Somali, 8 from Tigray and 2 from SNNPR) are fully recovered from the disease raising the total number of recoveries to 1,688.
- In addition, eleven people (6 males and 5 females) have passed away in the last two days raising the total number of deaths in the country to 89.
- Therefore, a total of 237,464 laboratory tests were conducted and 5,414 confirmed cases, 89 deaths and 1,688 recoveries were reported as of June 26th, 7:00 PM EAT.
- Out of the total 3,646 active cases, 27 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 treatment

- In the Lancet Rheumatology, Giovanni Guaraldi and colleagues report the results of a large, multicentre, retrospective cohort study of tocilizumab (a recombinant humanised monoclonal antibody of the IgG1 class that is used in Arthritis and cytokine release syndrome) for severe COVID-19 pneumonia. The study included 544 patients with confirmed COVID-19 and severe respiratory symptoms (defined as tachypnea, hypoxemia, poor oxygenation, and lung infiltrates of more than 50%) at three centres in the Emilia-Romagna region of Italy. 179 (33%) of these patients received tocilizumab (intravenous or

subcutaneous) and standard of care therapy, and 365 (67%) patients with similar respiratory symptoms received only standard of care therapy (supplemental oxygen, hydroxychloroquine, azithromycin, combination antiretrovirals, and low molecular weight heparin). The primary outcome was a composite of death or progression to invasive mechanical ventilation. At day 14 from hospital admission, there was a significant reduction in risk of invasive mechanical ventilation or death in patients treated with tocilizumab and standard care compared with those treated with standard of care only. A major concern is adverse events; the researchers observed a significantly higher prevalence of infection in the tocilizumab group than in the standard of care only group. The study design and short follow-up period did not allow conclusion regarding the early and long-term side-effects of receiving tocilizumab followed by glucocorticoids; data from ongoing randomised clinical trials are required. Nevertheless, the case of severe herpes simplex virus 1 hepatitis in the tocilizumab group suggests the importance of screening for herpes virus reactivation, especially if glucocorticoids are added (Guaraldi, Meschiari et al. , Schulert 2020).

- A trial that studies the use of salt water (hypertonic saline) in the treatment of COVID-19 is to be studied by researchers in Scotland. The study, known as ELVIS-COVID-19, aims to find out if nasal washout and gargling with salt water (hypertonic saline) helps individuals with COVID-19 get better faster. Before starting this trial, the study team based their study on a pilot, open labelled, randomized controlled trial of hypertonic saline nasal irrigation and gargling for the common cold. Results from the pilot study indicated that that nasal washouts and gargling with salty water decreased; duration of illness by 1.9 days ($p = 0.01$), over-the-counter medications (OTCM) use by 36% ($p = 0.004$), transmission within household contacts by 35% ($p = 0.006$) and viral shedding by ≥ 0.5 log₁₀/day ($p = 0.04$). Even though we cannot expect this same with suspected or confirmed COVID-19, this study will determine if nasal washouts and gargling with salty water are helpful in COVID-19. The trial plans to enroll adults (18 and over) in Scotland that are self-isolating at home due to COVID-19 symptoms and their symptoms must have started within the last 48 hours and should include at least one of the following: Recent onset of a new continuous cough, Recent onset of a high temperature, Recent loss of sense of smell or taste (Ramalingam, Graham et al. 2019, EDINBURGH UNIVERSITY 2020).

Update on Public Health Control Measures

- A study in North Carolina involving 21,000 HCWs which aimed at measuring the effect of universal masking on the transmission of SARS-CoV-2 indicated a strong negative association between the former and the latter.
- From the baseline data 38% of HCWs with COVID-19 acquired the infection from the community, 22% from fellow HCWs and 40% did not have a clear source. This same cohort of HCWs was followed after universal masking was effected in health care facilities. Adjusting for other related interventions, the universal masking resulted in a prominently higher likelihood of preventing the risk of infection among HCWs. However, the risk of acquiring the infection from the community and unknown sources did not show a notable decrease.
- Authors argued that asymptomatic and pre-symptomatic HCWs and patients are important sources of infection in health care facilities. Universal masking could help maintain the number of HCWs who will get infected to a manageable level. Reducing the risk of transmission from HCWs to non-COVID-19 patients and vice versa is the added benefit of universal making. Though this finding has focused on universal use of masks, it does not at all defy the benefit of using other PPEs or interventions.
- Other studies also emphasized the benefit of the consistent use of PPEs by all health care providers. The shortage of PPEs has forced facilities and governments to prioritize HCWs and facilities in rationing the resource. In most facilities front line HCWs have a better protection assuming they have a relatively increased risk of infection. However, this trade-off rendered the remaining HCWs more vulnerable, with studies indicating an increased risk of infection among the remaining HCWs than front line HCWs. This reinvents the whole chain through HCW-to-HCW transmission (Seidelman J, et al, 2020, En L, et al, 2020)

Update on personal protective equipment

Face mask use

- Additional study assessed the effectiveness of household textiles in reducing the dispersion of droplets. A bacterial-suspension spray simulation model of droplet ejection was used to mimic a sneeze. The extent by which widely available clothing fabrics reduce the dispersion of droplets onto surfaces within 1.8m, the minimum distance recommended for social distancing, was quantified. The fabrics tested included 100% combed cotton (T-shirt

material), 100% polyester microfiber 300-thread count fabric (pillow case), two loosely woven "homespun" 100% cotton fabrics and "dry technology" 100% polyester common in sport jerseys. The results showed all the fabrics reduced the number of droplets reaching surfaces, restricting their dispersion to <30 cm, when used as single layers. When used as double-layers, textiles were found to be as effective as medical mask/surgical-cloth materials, reducing droplet dispersion to <10 cm, and the area of circumferential contamination to ~0.3%. The authors concluded the synchronized implementation of environmental droplet barriers as a "community droplet reduction solution" (i.e., face covers/scarfs/masks and surface covers) will reduce COVID-19 environmental droplet contamination and thus the risk of transmitting/acquiring COVID-19(Rodriguez-Palacios et al., 2020).

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