

COVID-19: A global public health disaster

Waleed Alabdulmonem¹, Ali Shariq², Zafar Rasheed³

¹Department of Pathology, College of Medicine, Qassim University, Buraidah, Saudi Arabia, ²Department of Microbiology, College of Medicine, Qassim University, Buraidah, Saudi Arabia, ³Department of Medical Biochemistry, College of Medicine, Qassim University, Buraidah, Saudi Arabia

Address for correspondence:

Zafar Rasheed, Department of Medical Biochemistry,
College of Medicine, Qassim University, Buraidah, Saudi Arabia.
E-mail: zafarrasheed@qumed.edu.sa

WEBSITE: ijhs.org.sa

ISSN: 1658-3639

PUBLISHER: Qassim University

Severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) is a minute fragment (~30 kb) of single-stranded RNA that causes coronavirus disease 2019 (COVID-19), which brought the whole world to a pause, shattering down all the insolence of modern-day civilization making human realize that still there are lots of concealed catastrophic challenges which are to be faced on this planet. In December 2019, the first expected case of COVID-19 was reported in the World Health Organization (WHO) office in China from Wuhan, Hubei,^[1] at that time, no one knew that this novel virus would take a form of a pandemic which shutting down all the daily life activities globally and locking down humans in their homes and force them to follow social distancing. On January 30, 2020, the WHO announced COVID-19 as a Public Health Emergency of International Concern and later on March 11, 2020, it was given the status of a pandemic.^[1] Since then, the cases are rapidly increasing in all over the world. As recorded on April 13, 2020, from Worldometer website, 1,851,734 confirmed cases of COVID-19 globally and 114,179 confirmed deaths were reported from all over the world. The data on the same day also showed that the largest reported cases were reported from the United States, followed by Spain, Italy, France, Germany, the United Kingdom, and China. In the United States, 22,105 people were died, which were significantly high as compared to any other countries of the world, whereas Italy, Spain, France, and the United Kingdom were placed on the second, third, fourth, and fifth places, respectively, as the confirmed reported deaths were 19,899 in Italy, 17,209 in Spain, 14,393 in France, and 10,612 in the United Kingdom (data recorded on April 13, 2020).^[2] In the Kingdom of Saudi Arabia till April 13, 2020, 4462 confirmed cases of COVID-19 were recorded and 59 confirmed deaths were reported.^[2]

SARS-CoV-2 is the seventh known CoV to cause infection in humans after 229E, NL63, OC43, HKU1, Middle East respiratory syndrome-CoV, and SARS-CoV.^[3] The exact source of SARS-CoV-2 is still not known, but some metagenomic studies showed its association with bats and pangolins.^[4] As compared to the previous CoVs, the infectivity rate of

SARS-CoV-2 is comparatively much higher, and the mode of transmission of this deadly virus is primarily by respiratory droplets from an infected individual to others through coughing, sneezing within a distance up to 6 feet, or touching of infected surfaces, where the viral particles are present.^[5] It is documented that the incubation period for this virus ranges from 2 to 14 days and after that period, the disease usually starts with a high-grade fever (>100.4°F or >38.0°C) with pneumonia-like symptoms such as chills, headache, fatigue, generalized body pain, and flue. After 2–7 days, COVID-19 patients may develop a dry, nonproductive cough that can progress to pneumonia.^[6] The overall mortality rate was anticipated to be 9%, but increasing to 50%, particularly those above aged 60 years.^[7] Patients suffered from some underlined comorbidity such as diabetes and cardiovascular complications were also reported to prone to this viral respiratory disorder.^[6]

At present, the only therapeutic measures to deal with this viral infection are only supportive and preventive, which are directed only to reduce the transmission of spread in the community.^[1,8] Although it is documented that the virus has not replicated outside the living cell, it remains infectious through environmental contamination, particularly from the crowded places, such as shopping malls and hospitals, which are believed to be the vital sources of its transmission.^[1,8] It is also important for the readers to know that the period of persistence of this virus viability is still not completely defined, but several scientists assumed that it may influence by several factors such as temperature and humidity.^[9] The transmission of virus can be decreased to a large extent by adopting strict infection control policies, which are basically a team base efforts and everyone has to play their roles. As per the recommendations of the WHO, everyone must adopt social distancing by residing at home and avoid unnecessary travel as much as possible.^[8,9] Being an enveloped virus, SARs-CoV-2 is comparatively easy to disinfect; therefore, hands hygiene plays a vital preventive tool from getting infected, washing hands frequently with soap and water or using alcohol-based hand sanitizers to disinfect hands have strongly been recommended by the WHO.^[11]

Other preventive measures are educating the general public by creating awareness regarding the spread of the virus that not only control in declining the incidence of disease but also prevent us to decrease the stigma of fake myths associated with COVID-19. It is also very important for the readers to know that the likely time period of this global pandemic is still uncertain and its implications are still unwinding. Therefore, this is a challenging situation that requires a team-based efforts from every individual in every society to overcome from this deadly global disaster.

References

1. Available from: <https://www.who.int/emergencies/diseases/novel-coronavirus-2019/events-as-they-happen>. [Last accessed on 2020 Apr 13].
2. Available from: <https://www.worldometers.info/coronavirus/?#countries>. [Last accessed on 2020 Apr 13].
3. Ye ZW, Yuan S, Yuen KS, Fung SY, Chan CP, Jin DY. Zoonotic origins of human coronaviruses. *Int J Biol Sci* 2020;16:1686-97.
4. Liu P, Chen W, Chen JP. Viral metagenomics revealed Sendai virus and coronavirus infection of Malayan pangolins (*Manis javanica*). *Viruses* 2019;11:979.
5. How COVID-19 Spreads. U.S. Centers for Disease Control and Prevention (CDC). Available from: <https://www.cdc.gov/coronavirus/2019-ncov/prevent-getting-sick/social-distancing.html>. [Last accessed on 2020 Apr 13].
6. Available from: <https://www.mayoclinic.org/diseases-conditions/coronavirus/symptoms-causes/syc-20479963>. [Last accessed on 2020 Apr 13].
7. Available from: <https://www.vox.com/science-and-health/2020/4/8/21207269/covid-19-coronavirus-risk-factors>. [Last accessed on 2020 Apr 13].
8. Kratzel A, Todt D, V'kovski P, Steiner S, Gultom M, Thao TT, *et al.* Inactivation of severe acute respiratory syndrome coronavirus 2 by WHO-recommended hand rub formulations and alcohols. *Emerg Infect Dis* 2020;26:DOI: 10.3201/eid2607.200915
9. Available from: <https://www.livescience.com/how-covid-19-spreads-transmission-routes.html>. [Last accessed on 2020 Apr 13].