

COVID-19: the global pandemic update

Opinion

The 2019 Coronavirus, now called SARS-CoV-2, was first detected in Wuhan City, Hubei Province, China in December 2019 and it continues to spread across several countries in the world. On Jan. 30, 2020, the World Health Organization (WHO) declared the outbreak a global health emergency. On February 11, 2020, the World Health Organization named the disease “COVID-19”, “COVI” for Coronavirus, “D” for “disease” and “19” for the year in which it was identified. People who get sick from COVID-19 have infection signs such as respiratory symptoms, fever, and cough, shortness of breath and breathing difficulties. In more severe cases, infection can cause pneumonia, severe acute respiratory syndrome, kidney failure and even death. Coronaviruses (CoV) are a large family of viruses that cause illness ranging from the common cold to more severe diseases such as Middle East Respiratory Syndrome (MERS-CoV) and Severe Acute Respiratory Syndrome (SARS-CoV). The novel strain of coronavirus called SARS-CoV-2, also referred to as 2019-nCoV is a new virus which has not been previously identified in humans. Coronaviruses are zoonotic, meaning they are transmitted between animals and people. They are commonly found in many different species of animals, including camels, cattle, cats, and bats. The SARS-CoV-2 outbreak in Wuhan had some link to large sea-food and live animal market, suggesting animal-to-person spread. Later on, it spread to other people, indicating person-to-person spread.

Currently, according to WHO, globally there are nearly 3,000,000 confirmed cases of people suffering from COVID-19 disease of which ~200,000 people have died from this disease and nearly 900,000 have recovered.¹ The disease has spread to 210 countries worldwide. The COVID-19 disease spreads from person to person when they are in close contact with each other (within about 6 feet). Transmission happens when respiratory droplets, produced by an infected upon coughing or sneezing, land in the mouths or noses of people who are nearby and possibly inhaled into the lungs. In order to keep oneself healthy and safe, it is important to avoid crowded places, wash hand thoroughly for at least 30 seconds or more with soap and hot water after getting in contact with people who are sick, sneezing or coughing or surfaces suspected to be contaminated with SARS-CoV-2. In addition, if one is sick, it is important to avoid spreading the virus by using a handkerchief or a tissue when sneezing and better yet staying at home to prevent further spread of the virus. People with a respiratory illness can wear certain models of professional, tight-fitting respirators (such as the N95) masks to lessen their chance of infecting others. Health care workers can protect themselves by wearing these masks as they care for infected patients. In addition, avoid consumption of raw meat and ensure that meat and eggs are cooked thoroughly before consumption. Raw meat, raw milk or raw animal organs should be handled with care to avoid cross-contamination with uncooked foods. There is a lot of concern about the huge amount of information that is floating on the internet and various public forums and it is important to know the above do's and don'ts if you get infected.

As is the case with other viruses, the new coronavirus will not stay long on surfaces, so it is not likely that one would get COVID-19 from a package that was in transit for days or weeks, coming from

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an infected place such as its place of origin (Wuhan, China) or any other place where the disease incidence is high. The illness is most likely transmitted by droplets from an infected person's sneeze or cough. An efficient assay to detect SARS-CoV-2 is needed to distinguish between this novel coronavirus and other related viruses so that adequate treatment and quarantine measures are put in place. Centre for Disease Control (CDC), USA has developed a real time Reverse Transcription-Polymerase Chain Reaction (rRT-PCR) test that can diagnose SARS-CoV-2 in respiratory samples from clinical specimens. On January 24, 2020, CDC publicly posted the assay protocol for this test. Different labs all over the world are using this information for accurate detection and companies are utilizing the same to develop kits for easy detection. Thermal imaging is also being used to detect infected patients with elevated body temperatures as that is also a symptom associated with COVID-19. The outbreak of COVID-19 has led countries to impose a travel ban to and fro from China and other neighboring countries where the disease outbreak is more severe. People travelling from the infected places are being quarantined to ensure minimal spread of disease to the non-infected population. Quarantine is usually established for the incubation period of the communicable disease, which is the span of time during which people have developed illness after exposure. The period of quarantine for COVID-19 ranges from 14-28 days from the last date of exposure, because 28 days is the longest incubation period seen for similar coronaviruses. The person who has been released from COVID-19 quarantine is not considered a risk for spreading the virus to others because they have not developed illness during the 14-28 days incubation period. Other ways countries are planning to counter the COVID-19 disease is by advising people to avoid unnecessary travel to the crowded/ infected areas, maintain hygienic measures such as washing your hands thoroughly several times a day, avoid going too near the infected patients, wear safety mask if travelling to crowded places, scanning people at ports of entry both by sea and air and quarantining people who are detected positive.

Currently, there is no vaccine to cure COVID-19 disease. The best treatment regimen is to quarantine the infected people, treat with anti-pyretic medicines, medicines to boost the immune system,

make them drink plenty of lukewarm water and fluids, make them avoid cold beverages and wait for 14-28 days till the virus is cleared from the system, as is the case with viral infections. Various scientific groups across the world are in the race to develop the vaccine and some of the candidates are already in clinical trials.^{2,3} Scientists at the University of Texas have deciphered the structure of the outer protein of 2019-nCoV from the sequence shared by Chinese scientists and are a step closer to developing one. COVID-19 outbreak has resulted in losses of several of thousands of dollars for various companies across continents as the world comes to grip with this disaster. It is sincerely hoped that the scientists soon come up with a vaccine so that people can be administered the same to prevent further infection. In the mean-time people should try and adhere to precautionary and hygienic measures to the best possible extent, to avoid further spread of this disease.

Acknowledgements

None.

Conflicts of interest

The author declares that there is no conflict of interest.

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