

# COVID-19: A Horrendous Death Pandemic A Global Hit

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## Abstract

The outbreak of COVID-19 has hit the world globally creating a great havoc worldwide. A novel human coronavirus termed SARS-CoV-2 (formally termed HCoV-19) is a severe respiratory syndrome coronavirus-2. The virus was first diagnosed in Wuhan, China, in late 2019 and is now a challenging health concern for the world, threatening the life of millions. Various experiments have been carried out on this pandemic, resulted in the surfacing of its existence and tenure of life on different objects. COVID-19 has not only smacked the health but also has its gruesome impact on the world's economy. The study focuses on the Physical, Chemical and Biological properties of Coronavirus, its biological effect, diagnosis and remedies. Besides this, it deals with its impact on global economy.

**Keywords:** health, COVID-19 properties, economy, diagnosis and remedies.

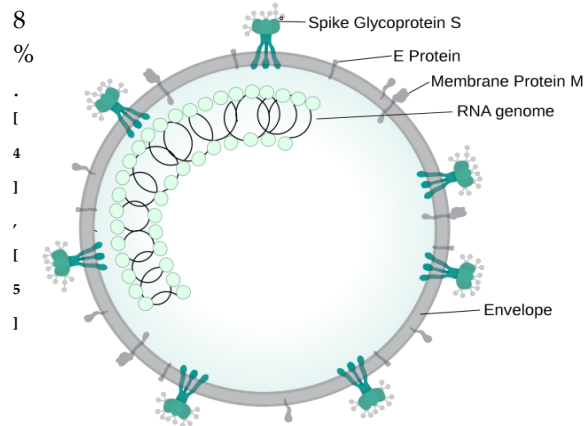
## Introduction

SARS-CoV-2 (COVID-19) outburst has led the world in complete quarantine. This virulent virus was detected in Wuhan, China, in late 2019, since then it has started rising rapidly grasping the world in its tentacles generating havoc all over. COVID-19, a pandemic, is a severe respiratory syndrome coronavirus-2, WHO declared the 2019-20 coronavirus outbreak a Public Emergency of International Concern (PHEIC) on January 30, 2020, and a pandemic on March 11, 2020. SARS-CoV-2 is genetically related to SARS-CoV, which caused a global epidemic with 8096 confirmed cases in more than 25 countries in 2002-2003<sup>[1]</sup>. The epidemic of SARS-CoV was successfully contained through public health interventions, including case detection and isolation. Transmission of SARS-CoV occurred mainly after days of illness<sup>[2]</sup> and was associated with modest viral loads in the respiratory tract early in the illness, with viral loads peaking approximately 10 days after symptom onset<sup>[3]</sup>. SARS-CoV-2 transmission occurs mainly after days of illness with flu-like symptoms including fever, dry cough, throat pain and problem in shortness of breath.

The coronavirus can go airborne, staying suspended in the air depending on factors such as temperature and humidity (WHO). Sensing the danger of this pandemic many countries have

implemented lockdown/ curfews to curb the spread of this lethal virus yet without health measures countries could not simply lock down their societies to defeat coronavirus (WHO). Most affected countries are China, Italy, Iran and USA and are soaring high death rate. As per the data recorded till March 25, 2020, the diagnosed death rate is 4.5%. However, it ranges from 0.2% to 15% according to age group and health problems.

The fatality rate depends on variations in availability of sufficient health care facilities and how broadly a population is tested. A study reveals that children of all ages are prone to the disease, but are likely to have milder symptoms and a much lower chance of getting affected by this severe disease than adults; people in the age group below 50 years have the death - risk less than 0.5%, while those above 70, it is more than 8



Schematic diagram of Coronavirus

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### **Physical, Chemical and Biological properties of Corona virus**

Corona virus is helical in shape has the diameter in the range 100 nm to 160 nm. It is one of the largest genome of RNA viruses (27 kbp- 32 kbp). Corona virus is small envelope (E) of protein having nucleus of nucleocapsid (N) phosphoprotein and membrane (M) of glycoprotein embedded in the lipid bilayer which is having spike(S) of glycoprotein that makes the petal shaped peplomers. These spikes act as receptor binding and help to fuse in to the cell.

It remains on the plastics and stainless steel for several hours and on metal like copper and cardboard few hours only.

### **Biological Effect of Corona Virus**

Generally Corona virus affects the respiratory system of the effected person. It generally has more effect on the children's and the persons above the age 50. Corona virus causes multi-organ failure of the patient. Moreover Corona virus can affect the person of any age depending upon the immunity of the person. Corona virus can impact several animals.

### **Existence, Transmission and Tenure of life of Corona virus on different Objects**

Corona virus exists on the various materials for various time intervals. It remains on plastic and stainless steel for three days and for few hours on copper and card board. The transmission of SARS-CoV-2 is plausible, as the virus remain viable and infectious in aerosols for hours and on surfaces up to days (depending on the inoculum shed). This respiratory disease is transmitted through human-to- human contact, droplets carried through sneezing and coughing as well as germs left on inanimate objects.

### **Diagnosis and Remedies of Coronavirus**

Various testing protocols has been published by the WHO for the disease.<sup>[6]</sup> The real time reverse transcription polymerase chain reaction (rRT-PCR) is the standard method of testing the disease.<sup>[7]</sup>

Testing can be done on respiratory samples obtained by either a nasopharyngeal swab or sputum sample<sup>[8]</sup>. Normally the results of these tests are available within a few hours to two days.<sup>[9],[10]</sup> Blood tests can also be used, however, these require two blood sample taken two weeks apart and the results have little immediate value<sup>[11]</sup>.

Corona virus enters inside the human body through mouth or nose. It goes to the lungs via throat. After few days it causes multi organ failure. The exact vaccine of Corona virus is not discovered yet. However the surfaces of different material can be cleaned from Coronavirus by using UV-radiations of the wavelength ranging from 100 nm to 200 nm. This range of UV- radiation has high energy as compared to far UV-radiation and suitable to kill the Coronavirus from the surface of various materials. UV-radiation can help to reduce the impact of Corona virus. Social distancing is one of the major remedies to curb the spread of coronavirus. The use of N95 masks help filter out about 95% of liquid or airborne particles.

### **Global Impact of COVID-19**

Tourism, Construction and Hospitality, Business, Education are worst sufferers of COVID-19. The cancellation of flights (Domestic and International), Public Transport, Inter-state Transport, Hospitality Industry, IT companies, Share Market etc. have adversely affected the economy globally bringing it down. This is also impacting the lives of daily wagers, private employees, self-employed, factory workers, small - scale businessmen, of their daily source of income. Tokyo Olympics 2020 to be held from July 24 to August 9 is called off affecting the economy.

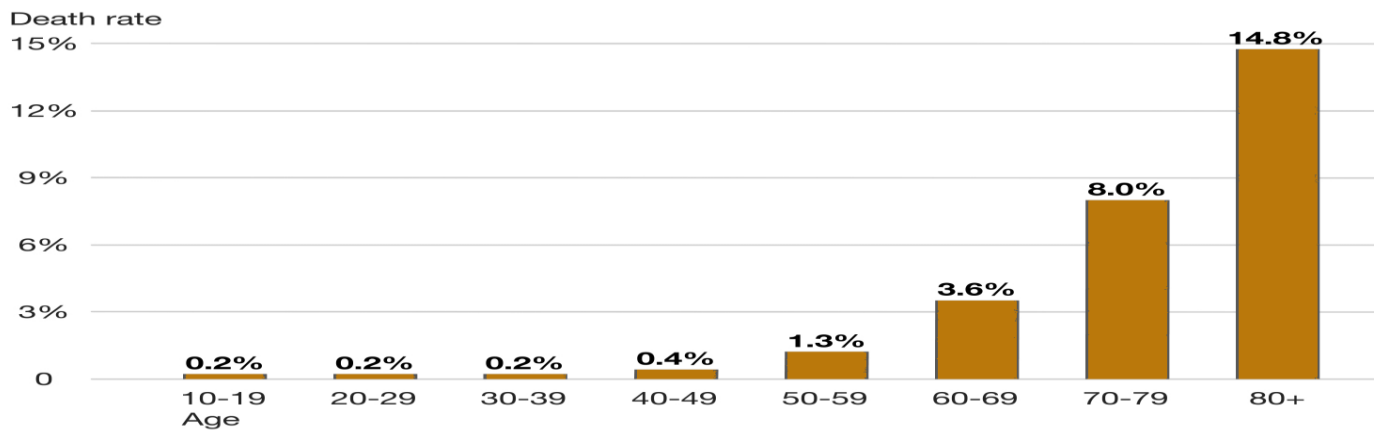
### **Conclusion**

COVID-19 undoubtedly has led health degrade and deteriorate at a high speed and can shrink the present economy and raise a large number of deaths, if its existence could not have a halt. It will also lower the rate development and progress of every country. Insufficient health facilities and awareness in many countries will act as an obstacle to curbing the pandemic from getting multiplied.

Efforts are being made by China to formulate vaccines to combat this lethal pathogen. China has

already started the first phase of a clinical trial for a novel coronavirus vaccine in Seattle and is expected to continue till the end of the year.

### COVID-19 Fatality Rate by AGE



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