



Coronavirus

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Coronavirus was first identified by virologists J D Almeida, D M Berry, C H Cunningham, D Hamre et al, who published their findings in 1968 in the journal Nature, “these viruses are members of a previously unrecognised group which (the virologists) suggest should be called the coronaviruses, to recall the characteristic appearance by which these viruses are identified in the electron microscope.”

There are 40 different varieties of coronavirus and they mainly infect human and non-human mammals and birds. They reside in bats and wild animals and can spread to other animals and hence to humans. Zoonotic coronaviruses have emerged in recent years to cause human outbreaks such as coronavirus disease 2019 (COVID-19), severe acute respiratory syndrome (SARS), and Middle East respiratory syndrome (MERS).

The origin of the word ‘corona’ has been taken from the sun as the virologists compared “the characteristic ‘fringe’ of projections” on the outside of the virus with the solar corona.

Taxonomy of coronaviruses that can cause disease in humans:

Genus	Varieties causing human disease
Alphacoronaviruses	Human coronavirus 229E (HCoV-229E)
Betacoronaviruses	<ul style="list-style-type: none"> ● Human coronavirus HKU1 ● Human coronavirus NL63 (HCoV-NL63, New Haven coronavirus) ● Human coronavirus OC43 (HCoV-OC43) ● Middle East respiratory syndrome-related coronavirus (MERS-CoV or HCoV-EMC; the cause of MERS) ● Severe acute respiratory syndrome coronavirus (SARS-CoV-1, the cause of SARS) ● Severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2 or 2019-nCoV, the cause of COVID-19)

<https://www.cebm.net/wp-content/uploads/2020/03/JA7.png>

The virus that causes COVID-19 is thought to have originated in bats and then spread to snakes and pangolins and hence to humans, perhaps by contamination of meat from wild animals, as sold in China’s meat markets.

January 2020, a previously unknown new virus was identified subsequently named the 2019 novel coronavirus, and samples obtained from cases and analysis of the virus’ genetics indicated that this was the cause of the outbreak. This novel coronavirus was named Coronavirus Disease 2019 (COVID-19) by WHO in February 2020. The virus is referred to as SARS-CoV-2 and the associated disease is COVID-19.

On 31 December 2019, a cluster of cases of pneumonia of unknown cause, in the city of Wuhan, Hubei province in China, was reported to the World Health Organisation. In

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Illness in humans mainly manifests as a respiratory infection, or sometimes gastrointestinal infection. The clinical spectrum of illness varies from no symptoms or mild respiratory symptoms to severe, rapidly progressive pneumonia, acute respiratory distress syndrome, septic shock, or multi-organ failure resulting in death.

Epidemiological evidence shows that 2019-nCoV can be transmitted from one individual to another. In the previous outbreaks of other coronaviruses such as MERS-CoV and SARS, human-to-human transmission occurred most commonly through droplets, personal contact, and contaminated objects. The modes of transmission of 2019-nCoV are similar.

According to WHO, additional investigations are needed to determine how the patients were infected, the extent of human-to-human transmission, the clinical spectrum of disease, and the geographic range of infection. On 30 January 2020, the

Director-General of WHO declared the 2019-nCoV outbreak a public health emergency of international concern under the International Health Regulations (IHR) (2005). COVID-19 outbreak was declared as pandemic by WHO on 11 March 2020. According to WHO it is a controllable pandemic and urged all countries to take a comprehensive approach considering their circumstances and with containment measures as the central pillar.

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