

# CLINICAL CHARACTERISTICS, TREATMENT AND OUTCOME OF NOVEL CORONAVIRUS PNEUMONIA (COVID-19): REVIEW ARTICLE

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**ABSTRACT** Coronavirus disease (COVID-19) is an infectious disease caused by a newly discovered coronavirus. Most people infected with the COVID-19 virus will experience mild to moderate respiratory illness and recover without requiring special treatment. Older people and those with underlying medical problems like cardiovascular disease, diabetes, chronic respiratory disease, and cancer are more likely to develop severe illness. This review will provide the primary information to prevent and slow down transmission about the COVID-19 along with some clinical characteristics, epidemiology, evaluation & diagnosis, management, prevention, treatment and outcomes.

**KEYWORDS** Coronavirus disease, COVID-19, Epidemiology, Management, Prevention

## Introduction

Coronaviruses were first discovered in the 1930s when an acute respiratory infection of domesticated chickens was shown to be caused by infectious bronchitis virus (IBV). In the 1940s, two more animal coronaviruses, mouse hepatitis virus (MHV) and transmissible gastroenteritis virus (TGEV), were isolated.

Human coronaviruses were discovered in the 1960s. The earliest ones studied were from human patients with the common cold, which was later named human coronavirus 229E and human coronavirus OC43. Other human coronaviruses have since been identified, including SARS-CoV in 2003, HCoV NL63 in 2004, HKU1 in 2005, MERS-CoV in 2012, and SARS-CoV-2 in 2019. Most of these have involved serious respiratory tract infections.

The name "coronavirus" is derived from Latin corona, meaning "crown" or "wreath", itself a borrowing from Greek "garland, wreath". The name refers to the characteristic appearance of virions (the infective form of the virus) by electron microscopy,

which has a fringe of large, bulbous surface projections creating an image reminiscent of a crown or a solar corona. This morphology is created by the viral spike peplomers, which are proteins on the surface of the virus.

Coronaviruses are important human and animal pathogens. At the end of 2019, a novel coronavirus was identified as the cause of a cluster of pneumonia cases in Wuhan, a city in the Hubei Province of China. It rapidly spread, resulting in an epidemic throughout China, followed by an increasing number of cases in other countries throughout the world. In February 2020, the World Health Organization designated the disease COVID-19, which stands for coronavirus disease in 2019. The virus that causes COVID-19 is designated severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2); previously, it was referred to as 2019-nCoV. [1]

## Virology

Full-genome sequencing and phylogenetic analysis indicated that the coronavirus that causes COVID-19 is a betacoronavirus in the same subgenus as the severe acute respiratory syndrome (SARS) virus (as well as several bat coronaviruses) but in a different clade. The structure of the receptor-binding gene region is very similar to that of the SARS coronavirus, and the virus has been shown to use the same receptor, the angiotensin-converting enzyme 2 (ACE2), for cell entry. The Coronavirus Study Group of the International Committee on Taxonomy of Viruses has

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