

COVID-19: A Scoping Review

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ABSTRACT

The whole world is under the threatens of respiratory disease caused by infections of coronavirus. The latest threat to global health is the ongoing outbreak of the respiratory disease that was recently given the name Coronavirus Disease This article trying to focus on the current outbreak of and explores the epidemiology, causes, clinical manifestation and diagnosis, and prevention and control of the novel coronavirus. The aim of this article to provide valid and reliable information and increasing awareness about the COVID-19.

KEYWORDS: Covid-19, coronavirus

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1.1. INTRODUCTION

The latest threat to global health is the ongoing outbreak of the respiratory disease that was recently given the name Coronavirus Disease 2019 (Covid-19).¹ Researchers first isolated a coronavirus in 1937. They found a coronavirus responsible for an infectious bronchitis virus in birds that had the ability to devastate poultry stocks. The name “corona virus” comes from the crown-like projections on their surfaces.² “Corona” in Latin means “halo” or “crown.” Coronaviruses are enveloped single-stranded RNA viruses.³ Coronaviruses belong to the subfamily *Coronavirinae* in the family *Coronaviridae*. Different types of human coronaviruses vary in how severe the resulting disease becomes, and how far they can spread. Doctors currently recognize seven types of coronavirus that can infect humans. Common types include:^{8,9}

- 229E (alpha coronavirus)
- NL63 (alpha coronavirus)
- OC43 (beta coronavirus)
- HKU1 (beta coronavirus)

In 2019, a new strain called SARS-CoV-2 started circulating, causing the disease COVID-19. In December 2019, the phenomenon of collective pneumonia appeared in the South China seafood market in Wuhan, Hubei Province, China.⁴ It was rapidly shown to be caused by a novel coronavirus that is structurally related to the virus that causes severe acute respiratory syndrome (SARS). As in two preceding instances of emergence of coronavirus disease in the past 18 years:² SARS (2002 and 2003) and Middle East respiratory syndrome (MERS) (2012 to the present). Rarer strains that

cause more severe complications include MERS-CoV, which causes Middle East respiratory syndrome (MERS), and SARS-CoV, the virus responsible for severe acute respiratory syndrome (SARS).⁵

Referencing a news that was based on 44 000 confirmed cases, it was said that 14% of cases of covid-19 were severe, causing pneumonia and shortness of breath, and that about 5% of patients had critical disease, including respiratory failure, septic shock, and multiorgan failure.⁷

Stage of severity	Rough percentage of people with COVID-19
Mild disease from which a person can recover	More than 80%
Severe disease, causing breathlessness and pneumonia	Around 14%
Critical disease, including septic shock, respiratory failure, and the failure of more than one organ	About 5%
Fatal disease	2%

Table no 1.1 severity stage with % of people infected

1.2. Mode of transmission

It is contagious disease. The disease can spread from person to person through small droplets from the nose or mouth when infected one cough or exhales. The droplets with virus land on the objects and surfaces around the person.

Touching such an object by other person or breathing the droplets spread in air while coughing or exhaling by patient leads to infection towards that person. The existence and survival period of virus on the surface is not certain but it seems to be as like other coronaviruses. Studies reveals that the virus may persist on surfaces for a few hours or up to several days and variation depends upon the type of surface, temperature or humidity of environment^{8,9}.

1.3. Symptoms

Symptoms vary from person-to-person with COVID-19. It may produce few or no symptoms. However, it can also lead to severe illness and may be fatal. Common symptoms include:^{8,9}

- Fever
- Tiredness and
- Dry cough

Some patients may suffer from aches and pain, nasal congestions, runny nose, sore throat or diarrhea. It may take 2–14 days for a person to notice symptoms after infection. The National Institutes of Health (NIH) suggest that several groups of people have the highest risk of developing complications due to COVID-19. These groups include:^{8,9}

- Young children
- 65 years or elder people
- Pregnant women

1.4. Diagnosis & Treatment:

As the reported symptoms range from mild to severe, with some cases even resulting in death; the complete clinical manifestation is not yet clear. Fever, decrease in lymphocytes and white blood cells, new pulmonary infiltrates on chest radiography are some kind of symptoms appeared in case studies. The main diagnostic technique involves real-time reverse transcriptase polymerase chain reaction (RT-PCR) tests for COVID-19 nucleic acid which detect the positive nucleic acid of SARS-CoV-2 in sputum, throat swabs, and secretions of the lower respiratory tract samples. No fixed treatment yet determined for COVID-19; but antibiotics in stage I and antibacterial, antiviral proves some effectiveness from previous management cases of SERS-CoV and MERS-CoV^{1,8}.

1.5. Prevention and control:

Till now, there is no any approved vaccine or any drug for the treatment of infection by COVID-19, it is precaution and not the treatment is the best way to fight against it. Some protective measures to proposed prevention are as follows^{8,9}

- to avoid being exposed to the virus
- use of face masks; covering coughs and sneezes with tissues or a flexed elbow to cover the cough or sneeze)

- regular hand washing with soap or disinfection with hand sanitizer containing at least 60% alcohol
- avoidance of contact with infected people and from touching eyes, nose, and mouth with unwashed hands.

1.6. Conclusion:

The above discussion focuses on the current outbreak of and explores the epidemiology, causes, clinical manifestation and diagnosis, and prevention and control of the novel coronavirus. WHO, Government and different national agencies takes the steps to prevent the further spread of COVID-19. We hope further research will provide valid and reliable ways to manage COVID-19 as public health emergencies.

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