



# The Reality of the New Corona Virus (nCoV-2019): Diagnosis, Treatment, and Prevention

Fikry Elbossaty W\*

Department of Chemistry, Damietta University, Egypt

## Abstract

Corona virus is one of the fiercest viruses that infect the upper respiratory tract and lead to death. Corona virus infection severity ranges from the common cold to pneumonia. Corona virus spread recently, as it was in the past transmitted from animal to animal, then the virus evolved to transfer from animal to animal, and recently the virus moved from human to human.

The World Health Organization has taken important guideline rules to keep people from infection with the virus and in the case of infection, reduce symptoms and prevent disease progression, and then keep people from rising mortality. And there is no need for the terrible panic that emerged recently from the risk of infection with the virus, as it can be controlled through following healthy habits in terms of washing hands, and eating vegetables and fruits rich in vitamins that help raise the immune system.

**Keywords:** Corona virus; CoV; Human- human contact; RNA; Replication

## Introduction

Corona viruses (CoV) are a group of viruses that resemble the aura or crown under a microscopic examination, and may cause many respiratory and diseases of the digestive system, nervous system and liver [1]. The first infection with 2019-nCoV appeared in Wuhan, China, and then outbreaks of the virus appeared in many neighboring countries [2].

They belong to a large family of viruses, the severity of which ranges from colds to severe chest diseases [3]. They are transferred from animals to animals, from animals to humans and more recently from humans to humans [4]. The virus is spread by spray that comes out during sneezing or coughing and then the other person inhales it, and it extends to a distance of 6 feet [5].

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### \*Correspondence:

Fikry Elbossaty W, Department of Chemistry, Biochemistry Division, Damietta University, Egypt, E-mail: walaafikry1985@gmail.com

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## Structure of corona virus

The virus consists of spherical or polymorphic molecules of a single strand of ribonucleic acid bound to the nuclear protein and are enclosed in an envelope-shaped form associated with glycoprotein. The size of the virus ranges from 26 KB to 32 KB (Figure 1) [3].

## Mechanism action of virus

After the virus enters the cell, it is not covered, so a DNA transfer takes place, aided by the synthesis of the virus's RNA, where 5' methylated cap and a 3' polyadenylated tail are attached. This formation helps in the process of converting ribonucleic acid into protein in the translation process. RNA begins with the transcription process and forms small nucleotides that form millions of virus circulating inside the cells, especially the cells of the respiratory system (Figure 2) [6].

## Symptoms of corona virus

Symptoms of infection with the virus may appear in various forms such as respiratory symptoms, cough, fever, difficulty breathing, shortness of breath, and the condition may also develop into bronchitis, failure of kidney function and may lead to death if the situation is not controlled quickly [7]. Then symptoms of infection with the virus start within 2 to 14 days after infection.

Coronavirus contains two types of the most virulent human viruses, namely MERS-CoV and SARS-CoV. Symptoms of infection with MERS range from fever, cough and difficulty breathing, and the condition may even develop into pneumonia. The virus kills one or four of every 10 people infected with the virus [8]. As for SARS, symptoms may appear in the form of fever, chills, and pain in the body and also lead to pneumonia [9].

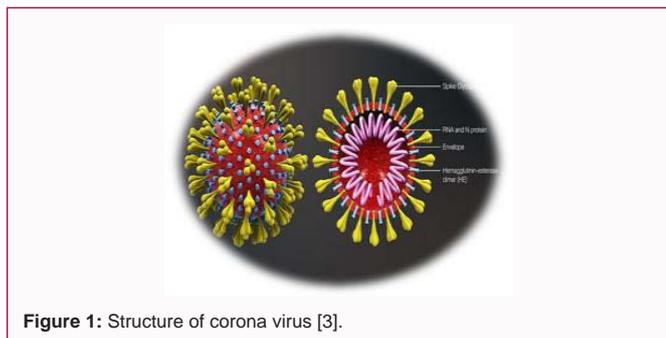


Figure 1: Structure of corona virus [3].

### Diagnosis of CoV

Corona virus infection can be detected either by clinical or laboratory symptoms. Laboratory detection includes identifying the presence of the corona virus using a Reverse Transcription Polymerase Chain Reaction (RT-PCR) test to detect CoV in blood, stool, and nasal secretions. It is also possible to detect the presence of the virus by making a farm for the virus, or by detecting the presence of antibodies to the virus in the blood of patients suspected of contracting the virus [10].

### WHO recommendation for prevent virus

Among the global recommendations to avoid infection by this virus or to reduce the severity of infection with the virus [11]:

- Commitment to the home in the event of feeling tired.
- Keep away from patients, and if necessary, to wear a muzzle that covers the nose and mouth.
- Washing hands on a continuous basis.
- Use wipes in case of sneezing or coughing.
- Cooking meat and eggs in a good way.
- Washing vegetables and fruits in a healthy and healthy way.

### Treatment of virus

No effective treatment has yet emerged for this virus, and some people are recovering quickly without reaching hospital. Antipyretic use such as Tylenol (acetaminophen), tranquilizers for coughing, rest and drinking fluids. However, the risk of infection with this virus depends largely on young patients, pregnant women and elderly people who suffer from diseases of the immune system, cardiovascular diseases and respiratory diseases.

### Conclusion

The virus n CoV-2019 is one of the fiercest viruses that have spread recently, as it appeared in the Chinese city of Wuhan and then spread rapidly too many European and Arab countries.

The main source of the spread of infection is the respiratory system, as it is the main source for the entry of the virus. The life cycle begins, and if it is not controlled, the situation begins to worsen, as the condition deteriorates quickly and may end in fulfillment as a result of a failure in the vital systems inside the body.

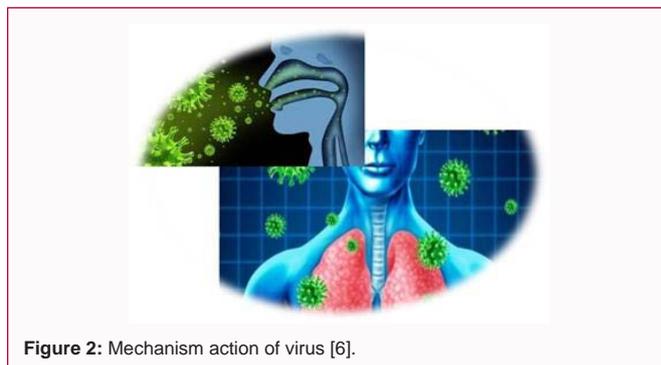


Figure 2: Mechanism action of virus [6].

One of the most important methods of prevention according to the decisions of the World Health Organization is to pay attention to continuous hand washing and disinfection with alcohol, and if not available, it must be washed well with soap and water.

Stay away from places of crowding and home sickness when feeling tired and catching a cold. One of the most important methods of prevention is strengthening the immune system as much as possible with proper nutrition, adequate sleep, taking vitamins, and exercising.

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