

## A Review of the Coronavirus (COVID-19) Disease

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### Abstract

This virus is a member of the Coronavirus family, which, along with two other viruses in the family, SARS and MERS, are most dangerous viruses to cause severe respiratory syndromes [3].

Coronaviruses are referred as Corona because of their similar shape to the crown on the microscope. A particular strain of the family, the SARS virus, first appeared in China in 2003. Nowadays, the detection of this viruses made possible by rapid laboratory tests [6].

This article attempts to provide the latest information on the prevention and treatment of Coronavirus disease.

**Keywords:** Coronavirus Disease; SARS Virus; COVID-19

### Corona virus transfer methods

Corona is transmitted quickly from some animals or human to human by respiratory droplets. Reports indicate that a market for sea-food, poultry and fish, pork and lamb was initially the source of transmission and disease onset; but the definitive reservoir and source for Coronavirus infection has not been identified yet. In addition, human assemblies in nursing homes, schools and palaces are rapidly conducive to the spread of the virus. The virus has also been shown to be transmitted through the skin, so contact with infected objects or patients should be avoided. Further investigations are ongoing to identify high-risk groups most likely to transmit the infection [10].

### Symptoms of coronavirus

Symptoms of Coronavirus are very similar to cold and the flu. Although the process is self-limiting, symptoms such as fever, headache and body aches, cough and runny nose and respiratory symptoms such as shortness of breath are common complaints. People with immune deficiency or elderly can also get pneumonia. Younger children are also likely to develop the disease because of poor immunity. Symptoms can last 3 to 5 days and should be referred to a physician if they are more severe and persistent than cold. The reason for current concern is the rapid spread of virus, which is comparable to the Spanish flu epidemic of 1918. However, it has been predicted that the Corona virus will not be as deadly as the other two viruses in this family, such as MERS and SARS [7,11].

### Prevention of corona virus infection

There is no vaccine for the virus so far. However, research is ongoing. For this reason, common prevention, such as washing hands with soap for at least 20 seconds, do not touch your eyes, nose and mouth and avoiding infected and suspicious people are the only the only recommendation of doctors. If you are sick and you think it may be Corona virus, you should tell a healthcare provider and seek early treatment. When you are coughing or sneezing, cover your mouth and nose and disinfected the objects and surface you touch [9].

Be aware of its symptoms and avoid going to fresh animal market. Also, if you keep a pet, such as a dog or a cat, be aware that the Corona virus can cause severe and fatal illness [12].

### Corona virus treatment

Like many viral illnesses, corona does not receive definitive treatment and does not respond to antibiotics. Fluid consumption, adequate rest, anti-fever and anti-cough medication are among doctors' recommendation.

As mentioned, identification of transmission methods, reservoirs, rapid Corona virus treatment, and transmission chain termination are at an elementary stage. There is also no vaccine for the disease so far, so the world health organization's best recommendation is to prevent the Corona virus epidemic [13].

### Corona virus

Corona means a crown or aura. The appearance of corona virus under a microscope is similar to a royal crown. Corona Viruses cover a wide range of viruses. The simplest type is the common cold and the most complex is currently corona disease.

Chin's Wuhan city is the first city to have a corona viral disease. Currently all the residents of this city are in quarantine. The simple form of the virus has also been seen in diseases, such as SARS and the flu in the past, but the deadly cause of the disease that is now emerging in the world is the newest type of corona virus. The rate of transmission is so high that nearly two months after the outbreak, about 11,000 people worldwide have been infected and nearly 265 have died of corona viral disease; is growing rapidly [14].

### History and origin of corona viral disease

The corona virus is an infectious virus that affects the throat, sinuses and respiratory tract. Corona virus were discovered in 1965 for the first time. Until the middle of the 1980, scientists were studying corona virus previously, scientists had discovered six type of corona virus. At the end of 2019, a new type of corona virus was detected in Wuhan, China. The high rate of transmission of the disease and its high number of casualties led China to declare a state of emergency, also to full quarantine 18 cities, including 10 million Wuhan [8].

All corona viruses of the past have been of animal origin for example, the disease was MERS was from camels and SARS from bats to cats and from cats to human [15].

### Signs and symptoms of corona viral disease

Firstly, corona virus is similar to a simple cold and its symptoms get worse over the time. Runny nose, severe sore throat, fever for a long time, headache and dyspnea are most important symptoms of Corona viral disease. Children and people with respiratory problems, heart disease, immune deficiencies due to a variety of cancers and immune deficiencies are more likely to be exposed to Corona virus. Long term severe fever/severe sore throat/runny nose/dry cough/shortness of breath/headache/chest pain/severe vertigo/short and long unconsciousness/changing in arterial oxygen/increase or decrease blood pressure are other symptoms Corona viral disease [16].

In mild cases, the symptoms are similar to the common cold even are sometimes mistakenly diagnosed with the flu, but the severity of the disease increases after a few days, with severe coughs, high fever, pain and body weakness. Acute cases of the virus affect the kidneys and respiratory system, as a result causes serious problems for patient.

The new corona virus firstly declares its presence in the host body with mild fever. Shortly after the fever, dry coughs start in patient. Sometimes, the fever is so mild that it is not diagnosed, so it is important to pay attention to dry coughs that they have no reason. About

7 to 10 days after coughing, shortness of breath is developed. Then shortness of breath and fever become more severe, as a result cause patient to move to the hospital [17]. If you see symptoms like fever, cough and shortness of breath, you should see your doctor for checking Corona virus as soon as possible.

### Corona virus prevention methods and virus risks

The new corona virus is the seventh corona virus that has known. The virus is so new and unknown that there is no treatment for it yet. Corona can start with symptoms like the common cold then continue with cough, shortness of breath, fever and acute respiratory problems. In addition, the virus has devastating effect on human liver, kidneys and digestive tract. However, the prevention of the virus is very simple. Therefore in corona disease, the most important issue is the prevention of the virus [18]. Doctors say, the most vital prevention factor is also first step of defense against corona virus is proper hand washing. In addition to regular hand washing, the following instructions are essential to prevent corona virus disease.

#### Face and hand wash

The first step in preventing Corona virus disease is proper and regular face and hand washing, also avoiding touching face with contaminated hands. Before and after attending public places, at the office and school, it is significant to wash your hand frequently with soap and water or an alcohol-based disinfectant gel [19].

#### Observe health tips while coughing and sneezing

When you or others sneeze or cough, cover your mouth and nose with clean towel. Then throw it in garbage bin.

#### Observe daily interactions

Avoid contact with people who have symptoms of a cold, such as fever or cough, as far as possible and if you have to be in a building, be sure to wear a mask [20].

#### Decreased contacting with animals

Avoid touching wild and livestock animals and if you unconsciously touch the animal, immediately wash your hands with soap and water [21].

#### Avoid hand shaking and embracement

The coronavirus may be present in the body for up to a week, and after one week the symptoms may develop. As a result, people with no symptoms may also be carriers of the corona virus, so during the outbreak the virus will absolutely Avoid hand shaking and embracement [22].

#### Use of safety equipment

Proper use of the mask in the prevention of corona virus disease is very important. If you use disposable masks, be careful that the blue side of the mask should be outward and the thicker part of the mask should be on the nose. These masks are disposable and should be discarded as soon as they are removed. Filter masks are more effective in preventing coronavirus because they are washable and because of their thickness, they provide better protection against the mouth and nose [23].

### Visit the doctor

If you have symptoms of illness, see a doctor and stay home for recovery and keep a close eye on your health to avoid transmitting the virus.

### Corona virus diagnose

Corona disease has symptoms that can be important for early detection, but be aware that these symptoms may be confused with colds and influenza, and only laboratory tests can confirm the disease. Early symptoms of fever, dry cough, shortness of breath, and acute respiratory problems are the main symptoms. There are also cases of gastrointestinal problems. Generally, the symptoms are simple and common at first and become more severe over time [24]. The diagnosis is made by laboratory tests. For this purpose, a sample of the individual's oral or nasal mucosa is removed by using an object similar to the ear cleaner. The virus sample in this mucosa is compared to viruses such as SARS or HIV and they carry out the necessary investigations.

Samples taken using the polymerase chain reaction technique in the experiment are transformed into a mass of genetic molecules in the corona RNA virus. With the resulting of genome sequence, a comparison is made between this sequence and the 2019-nCoV genome sequence that can help determine whether or not a person has the disease [25]. Of course, This is done in the test kits by placing mucus on these kits the test result can be determined.

One of the most important discussions about preventing corona virus disease is to follow the principles of hygiene and raise the immune system to prevent the disease. Studies show that deficiencies of vitamins such as C, A and D and weakening of the immune system increase the risk of respiratory and corona diseases [1].

Among the ways to boost the immune system's ability to fight diseases are the use of vitamins that boost the immune system, including vitamins: C/A/D/E. Eating a good diet that has the potential to boost the immune system, including nutrients and minerals, including [2]:

1. Citrus
2. Red bell pepper
3. Broccoli
4. Garlic
5. Ginger
6. Spinach
7. Yogurt
8. Almond
9. Turmeric
10. Green tea
11. Papaya

12. Kiwi
13. Fowl
14. Sunflower seed
15. Shrimp.

Can be mentioned:

In traditional and herbal medicine to boost the immune system use:

1. Licorice
2. Pennyroyal
3. Flake
4. Zofa
5. Hibiscus
6. Thyme
7. Mallow.

Are listed to prevent infectious disease and enhance the immune system by combining the following 4 nutrients and daily use:

Honey + Garlic + Lemongrass + Vinegar

Is recommended [4].

### **Dangerous of the corona virus**

This type of Corona is less deadly than its predecessors like SARS, MERS and even the flu. But, what has caused widespread concern is the faster and easier spread. So, it is possible that every single person can infect thousands [26]. On the other hand, Corona first starts with simple symptoms that people might ignore and causes it to become epidemic in cities like Wuhan, China. Overall, the risk is serious for people over the age of 50 who are prone to various disease, such as diabetes, dyspnea, acute respiratory and heart disease or have poor immune systems [5].

Approximately 70% of people who have the disease do not need to be hospitalized and recover after a maximum of one week. 10% of these people may need to be admitted to intensive care. Very few people in this ward die from respiratory and cardiac symptoms. The mortality rate among new-born corona patients is about 2 to 3 percent that is much lower than other illnesses with their former family members [27].

### **Treatment**

According to research into the effects of drugs:

1. Chloroquine TAB 500 stat: Chloroquine (Chloroquine is one of the potent anti-Malaria drugs. It is not recommended for treatment of Malaria caused by *Plasmodium falciparum* because of the widespread resistance of the drug to parasites. Chloroquine is currently used in the treatment of rheumatoid arthritis and lupus erythematosus) [28].
2. Ribavirin CAP 1200 mg BD: Ribavirin (Ribavirin used orally in combination with interferon for the treatment of chronic hepatitis C (HCV). Inhaled ribavirin is also used to treatment severe respiratory tract infections caused by (RSV)) [29].
3. Lopinavir-ritonavir TAB 400/100 mg BD: Lopinavir/Ritonavir (an antiviral drug used to treatment HIV. It is a combination of lopinavir and ritonavir. It is an essential drug of the world health organization) [30].
4. Oseltamivir CAP 75 mg BD: Tamiflu, an Oseltamivir brand, is an antiviral drug that prevents the blocks the actions and activities of a variety of the flu A and B viruses in your body [31].
5. Cinno Vex: Synovax (Synovax is used in recurrent forms of MS. It reduces the number and severity of attacks and slow the progression of disability) [32].

Corona viral disease has been proven and used in the treatment of emergency patients in hospitals in these who have been diagnosed with Corona disease.

By dividing patients when Corona Viral disease was diagnosed in terms of admission and severity into 4 groups:

1. Mild level patient
2. Medium level patient
3. Severe level patient
4. Very severe and dangerous level patient.

It is divided according to the level of severity of the illness and the type of medication prescribed.

### Mild level patient

Symptoms of the disease in general:

- Chest pain/fever about 38 degree/high arterial oxygen level/mild headache/body fatigue.
- General drug prescription: Use of hydroxychloroquine + oseltamivir for 5 days (2 drug prescription) [33].

### Medium level patient

Symptoms of the disease in general:

- Sore throat/fever above 39 degree/low arterial oxygen level/relatively severe vertigo/body fatigue/mild respiratory erythema/severe dry cough/pulmonary involvement.
- General drug prescription: Use of hydroxychloroquine + oseltamivir + lopinavir-ritonavir (3 drugs prescription).

### Severe level patient

#### Symptoms of the disease in general:

- Fever above 40 degree/severe respiratory erythema/severe dry cough/decreased consciousness/probability of faint/severe pulmonary involvement.

#### General drug prescription

- Use of hydroxychloroquine + oseltamivir + lopinavir-ritonavir + ribavirin (4 drugs prescription).

#### Very severe and dangerous level patient

#### Symptoms of the disease in general

- Fever above 40 degree/severe respiratory erythema/severe dry cough/severe decreased in consciousness/severe disturbance/faint over 24 minutes [32].

#### General drug prescription

- Use of hydroxychloroquine + oseltamivir + lopinavir-ritonavir + ribavirin + interferon beta1 (5 drugs prescription).

### Conclusion

The best treatment for this disease can be prevention, which is due to hygiene and boosting the immune system.

### Important Questions

How do we know that those with COVID-19 are no longer infected?

People with confirmed COVID-19 infections remain under the care of medica.

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