

# **Transmission and Safety Measures of COVID - 19 - A Review**

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## **ABSTRACT**

COVID - 19, the term which the total world is in fear and till now no vaccine was developed for curing this disease caused by the corona virus. This article describes the symptoms, transmission methodology of the virus and safety measures required during this pandemic period. This paper provides the review of the origin, effects and safety measures of this pandemic disease.

## **KEYWORDS**

Disease; pandemic; challenges; virus and symptoms.

## **INTRODUCTION**

COVID -19 is a pandemic disease caused due to the SARS CoV - 2 virus. The first case was reported from China in Wuhan on December 2019 [1,2]. On 7<sup>th</sup> January 2020, a dreadful corona virus, was detected from the infected patient throat. This infectious virus was then named as SARS - CoV - 2 (Severe Acute Respiratory Syndrome Corona Virus 2). First, this pandemic disease was termed as 2019 -nCov, but later on it was renamed as COVID - 19 by World Health Organization (WHO) on 11<sup>th</sup> February, 2020 [3,4]. From the word COVID - 19 [5,6], the letters CO stands for Corona, VI stands for virus, D stands for the disease and 19 stands for the year the disease was caused. Nearly more than 200 countries in the world is affected by this virus till date. The total economy of all the countries has dropped down due to this small pathogenic virus.

Vaccines are in development for this virus from many global countries but they are under trials. It was reported that the vaccine may come within a year.

## **ORIGIN**

In 1912, a German feverish cat with swollen belly came to the doctor for treatment. But the veterinarians were astonished to see the situation. Later there was similar observation with chickens, pigs etc. and the link between the pathogens were hidden till 1960's. Then the scientists from the United Kingdom and United States isolated viruses which have crown like projections and was responsible for causing cold in the humans. When the virus was viewed under electron microscope, it resembles the solar corona [7] and hence around 1968, the term corona virus was coined for this group. This virus comes under Kingdom of Orthonavirae, which was subjected to Pisoniviricetes. It belongs to the Nidovirales order which falls under the Coronaviridae family [8 , 9]. Researchers were thinking that this group of corona virus will cause only mild symptoms to the humans till 2003. In 2003, a global disease was caused due to the SARS virus, which killed thousands of people in the world. In 2019, the disease caused in China belongs to this type of SARS (Severe Acute Respiratory Syndrome) virus. Hence it was known to be as SARS CoV - 2 (Severe Acute Respiratory Syndrome) virus [10,11]. Brazil, was the Latin American country which reported COVID - 19 for the first time.

## **SYMPTOMS AND THEIR TRANSMISSION**

Fever, dry cough and tiredness were the common symptoms of this virus. Headache, sore throat, muscle pain, rashes on the skin, loss of taste, loss of smell, fatigue were also some of the symptoms of this virus. Severe breathing problem forms the major symptom of this virus [12]. The virus have the tendency to transmit from one person to another through the respiratory droplets and also from the surfaces where there was a contact with the infected person [13]. The symptoms may appear from second day to fourteen days after the exposure to the virus. Human beings who are affected by this virus does not have any age limit. They affect born babies, children, adults and also old aged people. But there is a criteria that more risk affected people falls under the category of people whose age group is greater than 60 years and so. When they

were affected the risk percentage of death rate is more for them. Similarly people who are deteriorating from diabetes, blood pressure, asthma, cancer, AIDS, renal failure are found to be more affected by this virus due to their low immune system. Recent research has revealed that there was no evidence that the virus was transmitted from the feces and urine samples of the patients [14 - 16].

#### **The mode of transmission is listed below**

- When a person sneezes or coughs, droplets spread in the air or fall on the ground or nearby surfaces.
- If another person is nearby and inhales the droplets or touches these surfaces and further touches his face, eyes or mouth, he or she can get an infection
- If the distance is less than 1 meter from the infected person, the transmission is more.

#### **TREATMENTS AND SAFETY MEASURES**

This virus infection shows ranges in the symptoms from mild level to severe risky nature among the patients. The structure of the virus seems to modify every time which forms to be one of the major hindrance in the development of vaccine till now. Bione is the ICMR approved company which has launched India's first home screening kit for COVID - 19 [17]. BNT 162 is the vaccine that is jointly developed by the German company BioNTech and US pharma giant Pfizer [18] for COVID - 19. Plasma Therapy is a clinical trial in which blood is transfused from recovered COVID - 19 patients to a corona virus patient who is in critical condition [19].

#### **Treatment involved is listed below**

- Nearly about eighty percentage of the people affected from this virus need not require any treatment and due their immunity power they will recover by themselves.
- Less than twenty percentage of virus infected people may require hospitalization.
- Very little proportion of people who were suffering from chronic illness require admission in ICU (Intensive Care Unit).

It is advisable that immune system should be strong enough to fight against this virus [20]. So people have to take good and healthy food to maintain their body condition. Some safety measures can be taken to avoid getting infected from this viruses.

### **Safety precautions needed during pandemic period**

- Wash the hands regularly with soap and water for at least twenty seconds. In case soap and water is not available, use at least 60 % alcohol to rub the hands, so that the it kills the viruses on the hands.
- Try to avoid touching the eyes, nose or mouth before washing the hands when going away from home. Hands have the nature to touch many surfaces and can take the viruses from where they can transfer it to eyes, nose or mouth so that they can easily enter in to the body and affect the respiratory system. [21]
- Try to avoid close contact with sick people and affected people.
- Maintain social distancing between yourself and the society. Let it be at least one meter or 3 feet between yourself and others, so that when anyone coughs, sneezes or speaks liquid droplets may spray from their nose or mouth which obviously may contain some virus. In case, if it is COVID - 19 virus, then it leads to severe breathing disorder and ultimately leads to death. [22]
- Try to avoid going to crowded places such as theatres, malls etc., because people may come together in groups and it seems that there might be chances of getting close with person having COVID - 19 and it will be difficult to maintain social distancing of about one meter and so on.
- Stay home and keep yourself isolated from others.
- In case of emergency to go outside, kindly wear the mask, so that the risk of entering the virus in to the body will be less.

### **Research involved in the preparation of vaccines**

When this new disease started spreading in India, various states started with their own traditional medicinal systems. Some people started to declare that cow dung, cow urine or panchagavya have the tendency to prevent this virus or will be a good treatment for this disease. But later in March, they realized that this medicine does not cure or prevent this pandemic virus because some of them who were taking this kind of medicine were found to be sick. Now the Gujarat government, have started their clinical trials of using panchagavya on COVID - 19 patients which was reported by Sanghavi in her article [23]. In the month of March and April,

Some authorities from United States suggested that there was a positive response for HCQ (Hydroxychloroquine) against COVID - 19. So many people started using HCQ to without any scientific evidence. Some of the research suggests that there was no evidence that HCQ cures or help in the treatment of COVID but it seems to have risky side effects which was pointed out by Bosely in 2020 in his article [24]. AYUSH ministry of Government of India announced Arsenic Album D 30 (AA30) in the month of February to be one of the important medicine for improving and increasing the immune system of the people to fight against the COVID - 19 which was reported by Bhasin [25] in his article.

During the outbreak of this pandemic disease several trials came in to existence and some of them are listed here such as micro biota transplantation, remdesivir, ritonavir - lopinavir combination, vitamin c infusion, darunavir & cobicistat, hydroxychloroquine for pneumonia and umifenovir [26 - 33]. It was found that there was an improvement in the first US patient when remdesivir was used for the treatment against the COVID - 19 and this paved the path for clinical trials and hence the research is going on with interest. [34,35]. But all these measures were not giving any fruitful prevention against this pandemic disease. The health authorities and researchers till now they were not satisfied with any therapy which was done in clinical trials [36 - 41].

## **CONCLUSION**

SARS CoV - 2 is the virus responsible for the COVID - 19, which is one of the pandemic disease announced by WHO. It is a dreadful disease that changed the whole environment scenario of world. Symptoms, their transmission and some few safety measures of this virus has been discussed in this article which in turn will give awareness for the human generation in the present and in the future.

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