



## TODAY'S LIFE AND CORONA VIRUS (COVID-19)

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### ABSTRACT:

Corona viruses are a group of enveloped viruses with no segmented, single-stranded, and positive-sense RNA genomes. Apart from infecting a variety of economically important vertebrates (such as pigs and chickens), six corona viruses have been known to infect human hosts and cause respiratory diseases. Among them, severe acute respiratory syndrome corona virus (SARS-CoV) and Middle East respiratory syndrome corona virus (MERS-CoV) are zoonotic and highly pathogenic corona viruses that have resulted in regional and global outbreaks. Corona viruses possess a distinctive morphology, the name being derived from the outer fringe, or –corona|| of embedded envelope protein. Members of the family *Coronaviridae* cause a broad spectrum of animal and human diseases. Uniquely, replication of the RNA genome proceeds through the generation of a nested set of viral mRNA molecules. Human corona virus (HCoV) infection causes respiratory diseases with mild to severe outcomes. In the last 15 years, we have witnessed the emergence of two zoonotic, highly pathogenic HCoVs: severe acute respiratory syndrome corona virus (SARS-CoV) and Middle East respiratory syndrome corona virus (MERS-CoV). Replication of HCoV is regulated by a diversity of host factors and induces drastic alterations in cellular structure and physiology. In this review all (as we possible) information about Corona viruses are given.

**Keywords:** Today, Life, Corona Virus, Covid-19

### INTRODUCTION:

A novel corona virus, designated as 2019-nCoV, emerged in Wuhan, China, at the end of 2019. As of January 24, 2020, at least 830 cases had been diagnosed in nine countries: China, Thailand, Japan, South Korea, Singapore, Vietnam, Taiwan, Nepal, and the United States. Twenty-six fatalities occurred, mainly in patients who had serious underlying illness. Although many details of the emergence of this virus — such as its origin and its ability to spread among humans — remain unknown, an increasing number of cases appear to have resulted from human-to-human transmission. Given the severe acute respiratory syndrome corona virus (SARS-CoV) outbreak in 2002 and the Middle East respiratory syndrome corona virus (MERS-CoV) outbreak in 2012, 2019-nCoV is the third corona virus to emerge in the human population in the past two decades — an

emergence that has put global public health institutions on high alert. Several countries in the region as well as the United States are screening travelers from Wuhan for fever, aiming to detect 2019-nCoV cases before the virus spreads further. Updates from China, Thailand, Korea, and Japan indicate that the disease associated with 2019-nCoV appears to be relatively mild as compared with SARS and MERS.

Corona viruses make up a large family of viruses that can infect birds and mammals, including humans, according to world health organization (WHO). These viruses have been responsible for several outbreaks around the world, including the severe acute respiratory syndrome (SARS) pandemic of 2002-2003 and the Middle East respiratory syndrome (MERS) outbreak in South Korea in 2015. Most recently, a novel corona virus (SARS-CoV-2, also known

as COVID-19) triggered an outbreak in China in December 2019, sparking international concern. While some corona viruses have caused devastating epidemics, others cause mild to moderate respiratory infections, like the common cold. Corona is big problem today's.

### Types

Corona viruses belong to the subfamily Coronavirinae in the family Coronaviridae. Different types of human corona viruses vary in how severe the resulting disease becomes, and how far they can spread. Doctors currently recognize seven types of corona virus that can infect humans.

### Common types

1. 229E (alpha corona virus)
2. NL63 (alpha corona virus)
3. OC43 (beta corona virus)
4. HKU1 (beta corona virus)

### Transmission

Limited research is available on how HCoV spreads from one person to the next. However, researchers believe that the viruses transmit via fluids in the respiratory system, such as mucus.

### Corona viruses can spread in the following ways:

Coughing and sneezing without covering the mouth can disperse droplets into the air. Touching or shaking hands with a person who has the virus can pass the virus between individuals. Making contact with a surface or object that has the virus and then touching the nose, eyes, or mouth. Some animal corona viruses, such as feline corona virus (F CoV), may spread through contact with feces. However, it is unclear whether this also applies to human corona viruses. The National Institutes of Health (NIH) suggest that several groups of people have the highest risk of developing complications due to COVID-19. Corona viruses will infect most people at some time during their lifetime.

Corona viruses can mutate effectively, which makes them so contagious.

### COVID-19

In 2019, the Centers for Disease Control and Prevention (CDC) started monitoring the outbreak of a new corona virus, SARS-CoV-2, which causes the respiratory illness now known as COVID-19. Authorities first identified the virus in Wuhan, China. More than 74,000 people have contracted the virus in China. Health authorities have identified many other people with COVID-19 around the world, including many in the United States. On January 31, 2020, the virus passed from one person to another in the U.S. The World Health Organization (WHO) has declared a public health emergency relating to COVID-19. The first people with COVID-19 had links to an animal and seafood market. This fact suggested that animals initially transmitted the virus to humans. However, people with a more recent diagnosis had no connections with or exposure to the market, confirming that humans can pass the virus to each other.

### Epidemiology

In December 2019, many pneumonia cases that were clustered in Wuhan city were reported and searches for the source have shown Huainan Seafood Market as the origin. The first case of the COVID-19 epidemic was discovered with unexplained pneumonia on December 12, 2019, and 27 viral pneumonia cases with seven being severe, were of-facially announced on December 31, 2019. Etiologic investigations have been performed in patients who applied to the hospital due to similar viral histories of these patients has strengthened the likelihood of an infection transmitted from animals to humans. On January 22, 2020, novel CoV has been declared be originated from wild bats and belonged to Group 2 of beta-corona virus that

contains Severe Acute Respiratory Syndrome Associated Corona virus (SARS-CoV).

#### **CONCLUSION :**

Over the past 50 years the emergence of many different corona viruses that cause a wide variety of human and veterinary diseases has occurred. It is likely that these viruses will continue to emerge and to evolve and cause both human and veterinary outbreaks owing to their ability to recombine, mutate, and infect multiple species and cell types. Future research on corona viruses will continue to investigate many aspects of viral replication and pathogenesis. First, understanding the propensity of these viruses to jump between species, to establish infection in a new host, and to identify significant reservoirs of corona viruses will dramatically aid in our ability to predict when and where potential epidemics may occur. As bats seem to be a significant reservoir for these viruses, it will be interesting to determine how they seem to avoid clinically evident disease and become persistently infected. Second, many of the non-structural and accessory proteins encoded by these viruses remain uncharacterized with no known function, and it will be important to identify mechanisms of action for these proteins as well as defining their role in viral replication and pathogenesis. These studies should lead to a large increase in the number of suitable therapeutic targets to combat infections. Furthermore, many of the unique enzymes encoded by corona viruses, such as ADP-ribose-1||-phosphates, are also present in higher eukaryotes, making their study relevant to understanding general aspects of molecular biology and biochemistry. Third, gaining a complete picture of the intricacies of the RTC will provide a framework for understanding the unique RNA replication process used by these viruses. Finally, defining the mechanism of how corona viruses cause

disease and understanding the host immunopathological response will significantly improve our ability to design vaccines and reduce disease burden.

#### **REFERENCES :**

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