

## DIAGNOSIS OF COVID-19

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### ABSTRACT

Human respiratory illnesses can be caused by the coronavirus family of viruses. The virus's surface features spikes that resemble crowns are what give them their name, "corona." The virion of coronaviruses has a spherical form with a diameter ranging from 80 to 120 nm. It is surrounded by trimers of the Spike protein (S), which are referred to as spikes. Hemagglutinin esterase (HE) is also involved in the creation of the so-called "crown" in the HCoV-OC43 and HCoV-HKU1 coronaviruses. According to Kline, low-grade fever appears to be one of the most prevalent early indicators of COVID-19, although not everyone will experience a temperature. Headaches, aches in the muscles, appetite loss, and loss of taste or smell are among other possible symptoms. Symptoms may develop two to fourteen days following exposure.

**KEYWORDS:** COVID-19, HCoV-OC43 and HCoV-HKU1, Hemagglutinin esterase (HE).

### INTRODUCTION

Since it was thought that 2019-nCoV was spread by the respiratory system and subsequently caused pneumonia, the condition was confirmed by molecular diagnostics using oral swabs. Similarly, the patient will be freed after two instances of mouth swab negative results. However, by infecting the intestines, numerous coronaviruses can also spread orally and feces. It is necessary to examine patients to see if they have 2019-CoV infection in other organs, including as the intestine. We looked at cases of viral virus infection in patients at a nearby hospital. Additionally, we discovered that 2019-nCoV was present in blood and anal swabs (Zhang et al., 2020). Enteric symptoms, such as acute dyspnea and anorexia, can occur sometimes. On the other hand, unusual symptoms including nausea, diarrhea, and even stomach pain might also appear. A vast family of viruses known as the coronavirus (CoV) is responsible for ailments ranging from acute respiratory tract infections to the common cold. Nonetheless, more in-depth study on these viruses has been conducted since the SARS and MERS outbreaks, which has accelerated the development of vaccines (Keni et al., 2020). From SARS patients, a coronavirus was discovered, which may be the main cause of the

illness. Tests for the virus, such as molecular and serological ones, allowed for a conclusive diagnosis in the lab and enabled additional research to determine whether other cofactors contribute to the course of the disease (Peiris et al., 2003). Pakistan has the fifth-highest population in the globe, although it has only reported the 29th-highest number of confirmed cases (at roughly 1,011,708) and the 29th-highest death toll (at roughly 23,087) thus far. Nevertheless, the underreporting of COVID-19 infections in the nation is not included in these numbers.

Pakistan has seen three distinct COVID-19 waves thus far. The first wave of COVID-19 to hit the country started in late May 2020, peaked in mid-June when the number of daily confirmed cases and daily new deaths reached high points, and stopped in mid-July. The first wave, which had a low mortality rate, ended abruptly when case and death rates swiftly started to decline after reaching their high.

Following the initial wave, Pakistan's COVID-19 situation improved, with daily reports of new deaths and low testing positivity rates stabilizing the disease. However, in early November 2020, cases and deaths started to rise once more, leading to the nation's

second wave. The southern region of Sindh was primarily hit by this low-intensity wave, which peaked around mid-December 2020. Midway through March 2021, the nation experienced a surge in testing positive rates, daily new confirmed cases, and fatalities, signaling the start of the third wave. Khyber Pakhtunkhwa and Punjab provinces were primarily hit by the third wave. After this wave crested in late April 2021, there has been a decline in positive rates, the number of new cases and deaths per day.

Punjab, the most populous province in Pakistan, has recorded the greatest number of confirmed cases (334,000) and fatalities (9,770) thus far. The second most populous province in the nation, Sindh, was hardest struck by Pakistan's first two waves of the virus and still has larger proportions of confirmed cases than any other province in the nation. Despite this, Sindh has witnessed the second-highest number of confirmed cases (308,000) and deaths (4,910). Additionally, it has the second-highest death rate in Pakistan, right behind Khyber Pakhtunkhwa, the province with the third-highest population. Despite having the third-largest number of confirmed COVID-19 cases (129,000), Khyber Pakhtunkhwa has seen an extraordinarily high fatality rate of 3.03%, making it the province with the highest death rate overall and the third-highest number of deaths (3,920).

A national lockdown was imposed on April 1 and continued twice till May 9. The lockdown was gradually lifted when it was lifted. Following the initial wave, the nation used "smart lockdowns" and SOP enforcement to combat COVID-19.

In Pakistan, COVID-19 is primarily found in a few important places. As of May 7, 2021, the city of Karachi had over 189,000 confirmed cases, accounting for roughly 22% of all COVID-19 cases in Pakistan. As of September 5, 2020, Lahore, the nation's second-largest city, had registered 170,000 COVID-19 cases, accounting for almost 19% of all instances in the nation. As of right now, Peshawar District and Islamabad Capital Territory had approximately 47,000 and 79,000 confirmed cases, respectively.

### PREVENTION

It takes sleep to feel better. Only when we don't get enough sleep can our immune system deteriorate. Try to obtain more sleep than is advised; for adults, this entails sleeping for longer than the usual 7 to 9 hours.

### CONCLUSION

The world will be negatively impacted by the recent pandemic in several ways. There is constantly concern about the next wave of the virus, even though certain nations or regions may be able to slow its progress.

New findings regarding various aspects of the virus and illness are being released on a daily basis. The key to combating this lethal virus is to modify the mitigating strategy in light of evolving results or discoveries.

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