

# Study: Coronavirus Patients May Be More Contagious in the Days Before Symptoms Appear

A study of Chinese scientists published in the journal *Nature* is valued by doctors and experts in epidemiology from the United States who support the certainty that, in the first periods of the new coronavirus, the viral load is higher than when the recovery stage occurs .

**JORGE MACÍAS**

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A medical worker from China's Jilin Province after serving sick patients in Wuhan, Hubei Province, where the outbreak of the new coronavirus began. Credit: Ng Han Guan / AP  
A study by Chinese researchers published in the journal [Natur and](#) found that patients infected with the new coronavirus may be contagious one or two days before symptoms appear.

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Scientists reported temporary patterns of viral spread in 94 laboratory-confirmed patients with covid-19 who were admitted to Guangzhou Eighth People's Hospital in China.

"We observed the highest viral load in throat swabs at the onset of symptoms and inferred that the ability to infect peaked on or before the onset of symptoms," wrote the study's lead authors, Xi He and Eric. HY Lau.

The study adds that the disease-causing SARS-CoV-2 virus: covid-19, spread efficiently, with a basic reproductive number of 2.2-2.5 in Wuhan, China, the city where

the outbreaks started and the first epicenter of the virus pandemic that spread to the world.

In China, scientists took saliva samples from patients' throats and found that viral loads were highest when symptoms started and gradually decreased towards the detection limit around day 21. This finding is consistent with other small studies done. in two hospitals in Hong Kong and with patients in Zhuhai, China's Guangdong province.

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"It is not that they have discovered warm water; it is normal that in the first stages of a disease the viral load is higher than when you are recovering 21 days later," [Kasein González](#) , an internal medicine doctor at St. Joseph Hospital in Orange, California, told Univision Noticias , who it was not part of the study.

"It is as if you get influenza, a doctor checks you in the first three or four days and the viral load is more intense, but it decreases when your body begins to take immunity and identifies the virus that attacked you and begins to destroy it; that happens with all viral diseases. If you don't heal, it's because from the beginning you kept all the viral load in your body. "

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The study also modeled covid-19 infectivity from a separate sample of 77 pairs of people in which one had infected the other.

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Using peer models obtained from publicly available sources within and outside of Mainland China, the researchers estimated that 44% of transmissions occurred during the presymptomatic stage of the patient, in settings with substantial family grouping, in active case search, and in quarantine outside of home.

Chinese scientists were able to infer that infection levels started at an average of 2.3 days and peaked at 0.7 days before symptoms appeared and calculated that the ability to infect was rapidly decreasing within a week.

"It is true, infections can start up to 48 hours before symptoms begin to appear; that is why the virus is very contagious and dangerous for older people who suffer from diabetes, hypertension, obesity, smoke or have heart problems," Dr. [George Rutherford, professor of Epidemiology and Biostatistics at the School of Medicine of the University of Medicine](#), told Univision News [University of California San Francisco](#). "So in California we see that a high percentage of infected people are Latino."

### "You have to be very careful"

For his part, Dr. [L. Nelson Sánchez-Pinto](#), a physician in the Pediatric Intensive Care Unit of the Ann & Robert H. Lurie Children's Hospital in Chicago, told Univision News on the subject of the journal **Nature** that "it seems" that the new coronavirus (SARS-CoV-2) has the ability to reduce the body's response to infection.

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"What usually causes the symptoms is not the virus itself, but the response of the body, including the immune system," he said. Activation of the body to fight infection is what causes fever, mucus production, cough, etc. The coronavirus appears to be able to quell that activation at first, making the infected person without symptoms, even though the virus is replicating and is capable of infecting other people who come into contact with the infected. "

"This is something that has been suspected for a long time and the [WHO \(World Health Organization\)](#) has already been announcing it," he said. "This means that you have to be very careful and take precautions whenever you have contact with other people; Hopefully once we have the availability to test more quickly, it will be easier for us to know who is infected and minimize the time that one may be infecting others. "

In their study, Chinese scientists wrote that the effectiveness of control measures depends on several key epidemiological parameters, including the serial interval or duration between the onset of symptoms of successive cases in a chain of transmission and the period of incubation, that is, the time between infection and the onset of symptoms.

They also stated that the variation between individuals and transmission chains is summarized in the distribution of the incubation period and the distribution of the serial interval, respectively.

"If the observed average serial interval is shorter than the observed average incubation period, this indicates that a significant part of transmission may have occurred before infected individuals have developed symptoms," they wrote. "Significant presymptomatic transmission would likely reduce the effectiveness of control measures initiated by the onset of symptoms, such as isolation, contact tracing, and improved hygiene or use of face masks for symptomatic individuals."