Will warmer temps help contain coronavirus? Two studies say, 'not really'

8 May 2020

(HealthDay)—Two new reports suggest that the warm summer months will not significantly slow the novel coronavirus as it spreads around the globe.

"Summer is not going to make this go away," said Dionne Gesink, an epidemiologist at the University of Toronto's Dalla Lana School of Public Health who co-authored a May 8 report in the *Canadian Medical Association Journal* that found neither temperature nor latitude altered COVID-19 infection rates. However, school closures and other public health measures did.

"It's important people know that," Gesink said in a journal news release. "On the other hand, the more public health interventions an area had in place, the bigger the impact on slowing the epidemic growth. These public health interventions are really important because they're the only thing working right now to slow the epidemic."

American researchers came to a similar conclusion in a paper that has not yet been peer-reviewed.

In that report, researchers led by Hazhir Rahmandad, an associate professor of system dynamics at MIT Sloan School of Management, found that summer weather is not likely to halt the transmission of the COVID-19 coronavirus.

"Even though high temperatures and humidity can moderately reduce the transmission rates of coronavirus, the pandemic is not likely to diminish solely due to summer weather," Rahmandad said in an MIT news release.

To arrive at that conclusion, he and his colleagues analyzed data on virus transmission and weather statistics across more than 3,700 locations between last December and April 22.

They found only a slightly lower transmission risk, about a 1.7% reduction per 1 degree Fahrenheit, once temperatures rose above 77 degrees F.

The finding underscores the need to continue social distancing, quarantining and hand-washing as many U.S. states plan to reopen their economies, Rahmandad said.

"Policymakers and the public should remain vigilant in their responses to the health emergency, rather than assuming that the summer climate naturally prevents transmission," he said. "At best, weather plays only a secondary role in the control of the pandemic."

For the Canadian researchers, the finding that hotter weather doesn't reduce COVID-19 cases was surprising.

"We had conducted a preliminary study that suggested both latitude and temperature could play a role," said study co-author Dr. Peter Jüni, also from the University of Toronto. "But when we repeated the study under much more rigorous conditions, we got the opposite result."

But Dr. Amesh Adalja, a senior scholar at the Johns Hopkins Center for Health Security in Baltimore, said there are reasons why summer might not make a dent in COVID-19 infection rates.

"Because this is a novel virus, without population immunity, we can't expect to see a full suppression of transmission based on seasonality," he explained. "Though certain environmental conditions might be less conducive to spread from surfaces during summer months, the sheer fact that so many people are susceptible may not make as much of a difference because person-to-person spread will continue.

"It will be important that even in the summer months, states remain vigilant regarding the number of cases that are occurring with full situational awareness of the rate of hospitalizations, to prevent hospitals from going into a stress mode of functioning," Adalja noted.

In the Canadian study, researchers compared the number of confirmed cases of COVID-19 in the United States, Canada and other countries on March 20 and again on March 27, to determine the effect of latitude, temperature, humidity, school closures, restrictions of mass gatherings, and social distancing on the spread of the disease. They looked at a total of more than 375,600 confirmed COVID-19 cases.

The results showed little or no association between latitude or temperature with a rise in COVID-19 cases and a weak association between humidity and fewer cases.

But school closures, social distancing and restrictions of large gatherings have helped control cases, according to the researchers.

"Our study provides important new evidence, using global data from the COVID-19 epidemic, that these public health interventions have reduced epidemic growth," Jüni said in the release.

"Our results are of immediate relevance as many countries, and some Canadian provinces and territories, are considering easing or removing some of these public health interventions," he

More information: The U.S. Centers for Disease Control and Prevention has more on COVID-19.