

Scientists predict that COVID-19 will become a seasonal virus—but not yet

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A colored scanning electron micrograph of the SARS-CoV-2 virus. Credit: NIAID

Thanks to the sniffing noses, coughs, and colds that accompany the colder months of the year, we are all too familiar with the seasonal patterns of some respiratory viruses. A new review published in *Frontiers*

in Public Health suggests that COVID-19, the illness caused by the SARS-CoV-2 virus, will likely follow suit and become seasonal in countries with temperate climates, but only when herd immunity is attained. Until that time, COVID-19 will continue to circulate across the seasons. These conclusions highlight the absolute importance of public health measures needed just now to control the virus.

Senior author of the study Dr. Hassan Zaraket, of the American University of Beirut in Lebanon, warns that "COVID-19 is here to stay and it will continue to cause outbreaks year-round until herd immunity is achieved. Therefore, the public will need to learn to live with it and continue practicing the best prevention measures, including wearing of masks, physical distancing, hand hygiene and avoidance of gatherings."

Collaborating author Dr. Hadi Yassine, of Qatar University in Doha, affirms and states that there could be multiple waves of COVID-19 before herd immunity is achieved.

We know that many [respiratory viruses](#) follow seasonal patterns, especially in temperate regions. For instance, influenza and several types of coronaviruses that cause common cold are known to peak in winter in temperate regions but circulate year-round in tropical regions. The authors reviewed these seasonal viruses, examining the viral and [host factors](#) that control their seasonality as well as the latest knowledge on the stability and transmission of SARS-CoV-2.

The researchers explain that virus survival in the air and on surfaces, people's susceptibility to infections and human behaviors, such as indoor crowding, differ across the seasons due to changes in temperature and humidity. These factors influence transmission of respiratory viruses at different times of the year.

However, in comparison to other respiratory viruses such as the flu,

COVID-19 has a higher rate of transmission (R_0), at least partly due to circulation in a largely immunologically naïve population.

This means that unlike the flu and other respiratory viruses, the factors governing seasonality of viruses cannot yet halt the spread of COVID-19 in the summer months. But, once herd immunity is attained through natural infections and vaccinations, the R_0 should drop substantially, making the virus more susceptible to seasonal factors.

Such seasonality has been reported for other coronaviruses, including those that emerged more recently such as NL63 and HKU1, which follow the same circulation pattern like influenza.

"This remains a novel virus and despite the fast-growing body of science about it there are still things that are unknown. Whether our predictions hold true or not remains to be seen in the future. But we think it's highly likely, given what we know so far, COVID-19 will eventually become seasonal, like other coronaviruses," adds Zaraket.

Dr. Yassine states that "the highest global COVID-19 infection rate per capita was recorded in the Gulf states, regardless of the hot summer season. Although this is majorly attributed to the rapid virus spread in closed communities, it affirms the need for rigorous control measures to limit [virus](#) spread, until [herd immunity](#) is achieved".

More information: *Frontiers in Public Health*, [DOI: 10.3389/fpubh.2020.567184](#) , [www.frontiersin.org/articles/1...2020.567184/abstract](#)

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