

Risk of severe COVID may depend on your type of asthma, experts say

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Everyone agrees about the good news—folks whose asthma is spurred on by allergies don't appear to have an increased risk of life-threatening illness if they contract COVID-19.

"Asthma has not risen as one of the top comorbid diseases for worse COVID-19 outcomes," said Dr. Sandhya Khurana, director of the Mary Parkes Center for Asthma, Allergy and Pulmonary Care at the University of Rochester (N.Y.) Medical Center. "We always worry with asthma and [viral infections](#), because they seem to trigger asthma exacerbation unreasonably. But what we've seen so far is reassuring."

But debate continues to swirl regarding the potential severity of COVID infection in people with non-[allergic asthma](#).

Some studies have suggested that people who have asthma caused by something other than allergies—exercise, stress, air pollution, weather conditions—might have an increased risk of severe COVID-19.

For example, Harvard researchers found that having non-allergic asthma increased the risk of severe COVID-19 by as much as 48%. That conclusion was based on data from 65,000 asthma sufferers presented in the June issue of the *Journal of Allergy and Clinical Immunology*.

"For those people, I think being more cautious would be good for them," said senior researcher Liming Liang, an associate professor of statistical genetics at the Harvard T.H. Chan School of Public Health in Boston. "I think the next wave is coming. We've got to be more cautious."

But other experts note that the data involving COVID and non-allergic asthma sufferers is very limited, and any conclusions that these folks are at higher risk of severe infection could be flawed.

Their asthma could be caused by other lung ailments that are associated with more serious cases of COVID, for instance, said Dr. Mitchell Grayson, chief of allergy and immunology at Nationwide Children's Hospital in Columbus, Ohio.

"There have been several studies that have shown that COPD does increase your risk of more severe disease," he said. "I don't think these studies have done a good job of excluding COPD in these patients."

Grayson agrees with Khurana that in the early days of the COVID-19 pandemic, there was much concern that asthma could be a risk factor—a reasonable suspicion, given that the coronavirus attacks the lungs.

But everything that came out of the initial epidemic in China suggested that asthma was not a risk factor for life-threatening COVID, Grayson said, and the data continued to confirm that as the coronavirus spread across the globe.

"It's not there in the data. If it is there, it's extremely

small risk. It's nothing I can see," he said.

Researchers have speculated that people with allergy-driven asthma might have some protection against COVID, due to the way the coronavirus infects the body.

The SARS-CoV-2 virus that causes COVID-19 enters lung cells by engaging with a type of protein on their surface called an ACE2 receptor, Khurana said.

"In the setting of an allergic type of inflammation, the expression of the ACE2 receptor appears to be downregulated. It appears to be lower. There's not as much receptor," she said.

Because there aren't as many ACE2 receptors available, people with allergic asthma might not be as vulnerable to severe infection, Khurana said. This theory also could help explain why other chronic diseases appear to increase COVID risk, she added.

"Patients in conditions like diabetes or hypertension, this receptor expression is increased," Khurana said. "That's a possible reason why those comorbid diseases are at especially high risk for this infection."

But that only explains why allergic asthma isn't a major risk factor for severe COVID, Grayson said. It doesn't explain why some studies are finding increased risk among people with non-allergic asthma.

Grayson suspects that the purported link between non-allergic asthma and COVID found in these studies is actually a link between a COVID and a host of different lung ailments, especially COPD.

"There are studies showing that COPD increases your risk of more severe COVID, not markedly but a little bit, not to the extent of things like hypertension and diabetes and [being] elderly," he said. "I'm concerned that what they're calling non-allergic asthma actually is COPD, which would skew their data."

In Khurana's view, more study is needed,

particularly prospective studies that track people with different types of asthma prior to COVID infection.

"So far, we just don't know enough to make any conclusions. I think we're still scratching the surface here and still have a lot to learn," she said.

In the meantime, it would pay for everyone to protect themselves, Khurana added.

"It's good practice to observe the recommended guidance on hand hygiene and social distancing and masking and avoiding any situation where you could be exposed, even though it's obviously welcome to see that allergic [asthma](#) is not as high-risk as some of the other comorbid diseases," Khurana said.

More information: The American Academy of Allergy, Asthma and Immunology has more about [COVID-19 myths](#).

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