

Children with asthma not at higher risk of severe COVID, research suggests

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In the early coronavirus pandemic, there were contrasting reports on whether asthma was a risk factor for severe COVID-19 infection. While children are considered to be at a lower risk of severe COVID-19 than older age groups, the impact of childhood asthma was also unclear.

Now, research suggests the risk of severe COVID-19 in children with [asthma](#) may be no greater than in children without asthma. The study, published in [the Journal of Asthma and Allergy](#), found no significant differences in markers of disease severity, such as [intensive care unit](#) (ICU) admissions, between non-asthma and asthma children during multiple waves of the pandemic.

"Children with asthma are generally more susceptible to [respiratory illnesses](#) like influenza, so it was initially thought they may be vulnerable to severe infection from the COVID virus," says respiratory epidemiologist and senior author of the study, Dr. Nusrat Homaira, from the Discipline of Pediatrics and Child Health, School of Clinical Medicine at UNSW Medicine & Health.

"But our study, based on a substantial sample of children across multiple waves of the pandemic, indicates children with asthma were not at higher risk of severe COVID than children without asthma," says Dr. Mei Chan from the School of Clinical Medicine at UNSW Medicine & Health, who led the analysis.

For the study, the researchers analyzed de-identified data extracted from the medical records of any child aged under 17 years old who sought care at The Sydney Children's Hospitals Network (SCHN) with a positive PCR test result between January 2020 and May 2022. Of the 18,932 children with confirmed COVID-19 who attended SCHN, 1,025 (5.41%) had a prior diagnosis of asthma.

"Asthma is the most common chronic respiratory condition in children in Australia, affecting about one in every 10 school-aged kids," Dr. Homaira says. "So, if COVID was actually a significant trigger for asthma, we would expect to see more asthma presentations in the hospital."

The researchers then compared the children with previous physician-diagnosed asthma to those without asthma on their risks of developing COVID-19 and disease severity, measured by length of hospital stay, ICU admission, mechanical ventilation uses and mortality. Information on the need for asthma medications, vaccination status and asthma severity were unavailable.

There were 72 children with COVID-19 who needed ICU care, but those with asthma were not at greater risk of being admitted to ICU during any of the waves. Mechanical ventilation uses were reported in 19 children with COVID-19, of which only two had asthma.

Eleven children died during the study—only one of whom was certified as dying as a result of COVID-19—and none of the deaths were in children with asthma.

"We looked at different markers of disease severity and although the group of children with asthma generally required a longer duration of hospitalization, they were not at greater risk of COVID severity in terms of ICU admissions, mechanical ventilation use, or mortality compared to those without asthma at any stage of the outbreak," Dr. Homaira says.

More infections during omicron wave

The research also found the length of hospital stay for asthmatic children increased by 1.17 days when omicron was the dominant strain in circulation.

"Children with COVID were less likely to be asthmatic during the early stages of the pandemic," Dr. Homaira says. "With the emergence of the omicron variant, we observed an increase in the risk of COVID infection among children with asthma compared with those without."

The take-home message from the study is we need to be vigilant, Dr. Homaira says.

"We need to keep monitoring the emerging variants of COVID-19 and encouraging children, especially those with underlying [chronic conditions](#), to keep up to date with their vaccinations as we know they can help reduce the risk of severe respiratory infections."

More information: Mei Chan et al, Asthma and Susceptibility to COVID-19 in Australian Children During Alpha, Delta and Omicron Waves of the COVID-19 Pandemic, *Journal of Asthma and Allergy* (2023). [DOI: 10.2147/JAA.S421158](https://doi.org/10.2147/JAA.S421158)

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