

# Milder symptoms and better prognosis in children with COVID-19

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This scanning electron microscope image shows SARS-CoV-2 (yellow)—also known as 2019-nCoV, the virus that causes COVID-19—isolated from a patient, emerging from the surface of cells (blue/pink) cultured in the lab. Credit: NIAID-RML

Children infected with the new coronavirus generally have less severe

symptoms than adults, they rarely need intensive care and very few child deaths have been reported. This according to a systematic review of COVID-19 in children, based on 45 relevant publications and performed by researchers at Karolinska Institutet. The review is published in the scientific journal *Acta Paediatrica*.

So far, there have been about 350,000 confirmed cases and 15,000 deaths due to COVID-19 (23 March 2020). This corresponds to a 4.0 percent mortality rate, but the actual figure is likely significantly smaller since the number of reported cases is lower than the actual number of cases. Previous studies have reviewed symptoms and characteristics of adults with COVID-19. Although some of these studies have also included a smaller number of children, the aggregated data on children with COVID-19 are rare. Now, a paper published in *Acta Paediatrica* summarizes the findings of a systematic literature [review](#) on the current knowledge of COVID-19 in children.

Through a systematic literature search carried out by two highly experienced librarians at Karolinska Institutet, Carl Gornitzki and Love Strandberg, 45 relevant publications on COVID-19 in children were identified up until March 18, 2020. Most of the studies originated from China.

## **Fewer children develop severe pneumonia**

"This review suggests that 1-5 percent of all cases with diagnosed COVID-19 are children", says author Jonas F Ludvigsson, paediatrician at Örebro University Hospital, and professor at the Department of Medical Epidemiology and Biostatistics, Karolinska Institutet.

"COVID-19 symptoms seem to be less severe in children than in adults, with fewer children developing severe pneumonia and very few reported [child deaths](#)."

The review was able to identify two child deaths, both occurring in China. It is also rare for children to need [intensive care](#) for COVID-19. Symptoms in children were similar to those reported in adults and included fever, cough and sore throat. A small number of children had diarrhea, vomiting and fatigue. The proportion of diagnosed children with elevated inflammatory markers and lymphocytopenia was lower than in adults.

## Children have a different immune defense

"It is well-known that the immune defense differs between children and adults, and perhaps that is the reason for the milder disease and better prognosis in children with COVID-19," says Jonas F Ludvigsson. "It could also be that children benefit from frequently being exposed to and sick from other viral infections."

The study was unable to identify any [drug trials](#) or testing that was specifically aimed at children, but it reviews current recommendations for treatment of COVID-19 in children. However, many [children](#) will need no treatment at all.

**More information:** Jonas F Ludvigsson. Systematic review of COVID-19 in children show milder cases and a better prognosis than adults, *Acta Paediatrica* (2020). [DOI: 10.1111/apa.15270](https://doi.org/10.1111/apa.15270)

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