

# COVID-19 in Childhood: Transmission, Clinical Presentation, Complications and Risk Factors

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## Abstract

Children less than 18 years of age account for an estimated 500,000 to 1.5 million global SARS-CoV-2 cases. Lower prevalence of COVID-19 among children, in addition to higher numbers of mild and asymptomatic cases, continues to provide challenges in determining appropriate prevention and treatment courses. Here, we summarize the current evidence on the transmission, clinical presentation, complications and risk factors in regards to SARS-CoV-2 in children and highlight crucial gaps in knowledge going forward. Based on current evidence, children are rarely the primary source of secondary transmission in the household or in child care and school settings and are more likely to contract the virus from an adult household member. Higher transmission rates are observed in older children (10-19 years old) compared to younger children (<10 years old). While increasing incidence of COVID-19 in neonates raises the suspicion of vertical transmission, it is unlikely that breast milk is a vehicle for transmission from mother to infant. The vast majority of clinical cases of COVID-19 in children are mild, but there are rare cases that have developed complications such as multisystem inflammatory syndrome in children (MIS-C), which often presents with severe cardiac symptoms requiring intensive care. Childhood obesity is associated with a higher risk of infection and a more severe clinical presentation. Although immediate mortality rates among children are low, long-term respiratory and developmental implications of the disease remain unknown in this young and vulnerable population.

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