



# UNCOVER

Usher Network for COVID-19  
Evidence Reviews

Summary: What is the evidence for transmission of COVID-19  
by children [or in schools]?

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THE UNIVERSITY  
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**Title:** What is the evidence for transmission of COVID-19 by children [or in schools]?

### Summary answer:

Evidence:

- Despite librarian-supported duplicate searches by experienced reviewers, no high quality studies directly addressing the study question were identified. This review will continue weekly literature updates to identify any new relevant evidence as it is reported.
- It is widely reported that children can get infected after exposure to confirmed cases, through household or travel contacts. Most paediatric patients have been family-clustered cases and a few have been infected during hospitalisation. Perinatal infection can also occur when the baby is born to a pregnant woman with confirmed infection via vaginal delivery, while vertical transmission from mother to infant or via breastfeeding have not yet been established. There are no reported outbreaks of COVID-19 in schools or nurseries.
- It is estimated that the number of infected children with latent asymptomatic or with mild symptoms of respiratory or gastrointestinal illness is higher than in adults. Available evidence also suggests that children may have more upper respiratory tract (including nasopharyngeal carriage) than lower respiratory tract involvement. Their prognosis is generally better than that in adults.
- **There is very limited evidence of transmission of SARS-COV-2 from children (based on a single case report where there was COVID-19 confirmed transmission from one child to family members).** In addition, there is risk of transmission by infected children (with virus in nasal secretions and stools) and some evidence of faecal-oral transmission in asymptomatic paediatric cases. **An investigation on environmental contamination in the isolation room of an infected infant confirmed that a generally well infant with COVID-19 can contaminate the environment with PCR-detectable virus.**
- This limited evidence may have substantial implications for community spread in day-care centres, schools, and homes.

### Extended abstract:

We run searches in PubMed, medRxiv and WHO COVID-19 database to identify relevant studies reporting on the COVID-19 transmission routes among infected (both symptomatic and asymptomatic) children and adolescences. This update covers the period 20 March 2020 – 8 April 2020. The literature screening was shared between two reviewers (XL, WX). Each new title, abstract and full text was screened by one reviewer. A total of 331 publications were retrieved (130 unique from the original search and 201n unique from the first update) and 68 studies including 2 case studies (1-2) investigating SARS-COV-2 transmission from diagnosed children and 66 case studies (3-68) exploring the transmission routes of how children were infected met the inclusion and exclusion criteria. We also found 28 reviews exploring the transmission of COVID-19 infection among children. References of previous systematic reviews were searched by two reviewers.

*Conclusions:* There is very limited evidence of paediatric cases as a source of infection. In summary, there appears to be risk of transmission by infected children, especially when considering the evidence of faecal-oral transmission in asymptomatic paediatric cases. The presence of SARS-CoV-2 virus in nasal secretions and stools may have substantial implications for community spread in day-care centres, schools, and homes.

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