

Youngest COVID-19 patients most likely to avoid severe illness, recover with care

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In a comprehensive review of research studies looking at infections from SARS-CoV-2—the virus that causes COVID-19—in infants less than three months old, Johns Hopkins Medicine researchers found that the

majority of these tiny patients experience mild to moderate cases of the disease and usually recover with supportive care.

The findings were reported online Sept. 8, 2020, in the *Journal of Pediatrics*.

According to the U.S. Centers for Disease Control and Prevention (CDC), children ages zero to four years were the population least impacted by COVID-19 between Jan. 21 and Oct. 15, 2020, both in number of cases (98,216 or 1.7%) and deaths (34 or less than 0.1%). The counts and percentages were calculated from CDC's totals for that time span of nearly 6 million cases and greater than 155,000 deaths in the United States for which age-specific data were available.

Nonetheless, the youngest members of that group—infants less than three months old—have still-developing immune systems and frequently come in close contact with their caretakers. This makes them disproportionately vulnerable to [infection](#) with the SARS-CoV-2 virus compared with older infants and other young children.

To more accurately assess the virus' impact on very young infants, the Johns Hopkins Medicine team conducted a systemic review of reports and studies published between Nov. 1, 2019, and June 15, 2020, on laboratory-confirmed community-onset (where symptoms are first seen outside of the hospital) SARS-CoV-2 infections in children less than three months of age. Thirty-eight publications describing 63 infants met the criteria for being included in the study.

The researchers used data from the documents to define several variables about the youngest group infected by SARS-CoV-2, including age, exposure to COVID-19, past medical history, clinical symptoms, SARS-CoV-2 testing, laboratory findings, clinical course, and resulting outcome after hospital discharge or end of care (disposition).

Most of the infants evaluated in the study—58 out of 63, or 92%—were hospitalized upon confirmation of SARS-CoV-2 infection. Along with the most common characteristic, fever (46, or 73%), the patients presented with various degrees of respiratory, gastrointestinal, cardiac and neurological symptoms. Eventually, most of the cases proved mild to moderate and improved with supportive care. Three infants were asymptomatic. Of the 63 patients, only 13 (21%) were admitted to an intensive care unit and two (3%) required invasive mechanical ventilation. No deaths were reported.

"Our results demonstrate a need for physicians to suspect SARS-CoV-2 infection in young infants presenting with generalized symptoms, such as fever or decreased desire to feed, even in the absence of respiratory problems," says Johns Hopkins Children's Center pediatrician Julia Johnson, M.D., Ph.D., associate director of clinical research in the Division of Neonatology and assistant professor of pediatrics at the Johns Hopkins University School of Medicine. "Further studies of SARS-CoV-2 infection in this special population are needed to address unanswered questions about how [infants](#) acquire the virus and what impacts it may have on their future health."

More information: Elyse G. Mark et al. Community-Onset SARS-CoV-2 Infection in Young Infants: A Systematic Review, *The Journal of Pediatrics* (2020). [DOI: 10.1016/j.jpeds.2020.09.008](https://doi.org/10.1016/j.jpeds.2020.09.008)

Provided by Johns Hopkins University

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