Study paints disturbing picture of Long COVID in early childhood

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9 June 2025

A new study published in JAMA Pediatrics found that a significant percentage of young children with prior COVID-19 could be classified as suffering from Long COVID. The two groups were infants/toddlers, 14 percent of whom had Long COVID, and preschool-aged children, 15 percent of whom suffered from the affliction.

Much higher percentages of these children, 41 percent and 45 percent respectively, had at least one prolonged symptom. These rates were far higher than infants/toddlers and preschool children without evidence of prior SARS-CoV-2 infection at 3 percent and 6 percent, respectively. Notably, the study excluded children with multisystem inflammatory syndrome in children (MIS-C), and thus the actual rates of children with COVID-19 related morbidity are higher.

The study was part of the National Institutes of Health's (NIH) $1.15 billion Researching COVID to Enhance Recovery or RECOVER initiative. Launched in August 2022, the initiative is a mixture of observational studies and clinical trials with mixed retrospective and prospective data collection. As of May 16, it has generated 115 journal articles describing Long COVID studies, which does not yet include the present study.

Formally known as the *RECOVER–Pediatrics cohort study*, it also found that the Long COVID symptoms exhibited differed between the two age groups, which also differed in symptomatology from adolescents and adults. Infants/toddlers had five symptoms that were highly indicative of prior SARS-CoV-2 infection: poor appetite, trouble sleeping, wet cough, dry cough, and stuffy nose. Poor appetite was the strongest indicator in this group. Preschool-aged children had two such symptoms: daytime tiredness and dry cough. Daytime tiredness (or sleepiness or low energy) was the strongest indicator.

The study enrolled a total of 472 infants/toddlers and 539 preschool-aged children at multiple sites across the US, with 278 infants/toddlers and 399 preschool-aged children having evidence of prior SARS-CoV-2 infection. The children's caregivers completed symptom surveys at the time the children were enrolled in the study. Besides symptoms, the surveys also assessed overall health, quality of life, physical health, and developmental milestones.

The study defined prolonged symptoms as those that were present at the time of the survey and that either lasted longer than 4 weeks or had started or worsened since the start of the COVID-19 pandemic. This definition was designed to maximize compatibility with definitions from both the World Health Organization (WHO) and the US National Academies of Sciences, Engineering, and Medicine (NASEM). The goal was to enable future comparisons between this study, other past studies, and future studies.

The researchers found that the rates of Long COVID differed for infants/toddlers whose infection occurred prior to the Omicron variant wave of the pandemic versus during or after Omicron. Specifically, in infants/toddlers, the pre-Omicron rate of Long COVID was 20 percent versus a post-Omicron rate of 13 percent. By contrast, for preschool-aged children, the pre- and post-Omicron rates were identical at 15 percent.

The study also created and validated a symptom index to determine probable Long COVID. This index assigns each symptom a score, with symptoms which are more highly correlated with prior SARS-CoV-2 infection receiving higher scores. The index is then calculated as the sum of the scores of the symptoms an infant or child is experiencing. The study derived a threshold score above which children were far more likely to have prolonged symptoms.

The study found a strong correlation between higher symptom index values and lower overall health and quality of life, as well as delayed developmental milestones. Children with probable Long COVID thus were unhealthier, had reduced quality of life, and were late in meeting developmental milestones.

The study is significant in that it is the first large, multiple-site study of Long COVID in early childhood. Prior studies of Long COVID have almost all been performed in older children and adults.

The study also found that the two groups differed in

symptomatology both from one another and from adolescents and adults. Characterizing the morbidity of Long COVID in these two age groups is an invaluable contribution, as are the symptom indexes for the two groups for use as a future research tool.

David Goff, M.D., Ph.D., division director for the Division of Cardiovascular Sciences at the NIH's National Heart, Lung, and Blood Institute, said:

> Most research characterizing long COVID symptoms is focused on adults, which can lead to the misperception that long COVID in children is rare or that their symptoms are like those of adults. Because the symptoms can vary from child to child or present in different patterns, without a proper characterization of symptoms across the life span, it's difficult to know how to optimize care for affected children and adolescents.

Besides the symptoms used in calculating the index, young children experienced many other prolonged symptoms. Notably, uninfected children rarely experienced these symptoms. The researchers also found that the prolonged symptoms were associated with SARS-CoV-2 but not other childhood viruses such as influenza and respiratory syncytial virus (RSV).

The study does have some limitations. The symptom indexes are not designed for clinical use, but for future research. Thus they cannot be used to measure the overall incidence of Long COVID in these age groups. Nevertheless, the indexes can be used to track progression of Long COVID and thus waxing and waning of symptoms over time.

The indexes rely on the somewhat subjective assessments of the children's caregivers. This issue is mitigated by the comparisons between infected and uninfected children. Nevertheless, future studies are needed to correlate these results with more objective assessments such as biomarkers.

Also, the study plans to follow children for longer periods of time. It is possible that many children who did not meet the symptom index threshold will progress to probable Long COVID in the future.

Another potential limitation is that the "uninfected" group could in fact include children with prior SARS-CoV-2 infection. The reason is that researchers were unable to test all children for prior infection due to their young age and parental reticence for blood draws. The effect of this potential bias, however, would be to lower the differences in rates of Long COVID in infected and uninfected children. Therefore the large observed magnitude of these differences in the study increases confidence in the study results and that the effect of COVID-19 infection is real.

The *RECOVER–Pediatrics cohort study* confirms once again how the ruling class summarily dispensed with the precautionary principle in its response to the COVID-19 pandemic. Instead, politicians and pundits repeatedly dismissed the severity of the illness and its long-term consequences in children, in particular so they could force the premature re-opening of schools.

The study arrives in the immediate aftermath of US Health Secretary Robert F. Kennedy Jr.'s latest salvo in the Trump administration's war on science and public health: removing recommendations for COVID-19 vaccinations for children and pregnant women from the Centers for Disease Control and Prevention's vaccine schedule. Although the current study did not address the effect of vaccination, a study published earlier this year in JAMA Network Open showed a 57-73 percent reduction in Long COVID in children who received a vaccine.

In addition, earlier this year the RECOVER initiative funding itself fell victim to the war on science. NIH canceled numerous grants on COVID-19 and Long COVID, including those related to RECOVER. However, due to substantial blowback from Long COVID patients, activists, and researchers, NIH was forced to restore some of this funding.

Ultimately this study demonstrates the bipartisan ruling class response to the pandemic to be a massive social crime, by leaving the world's future generations to suffer potentially a lifetime of disability and lowered life expectancy as a result. The working class cannot fight for the health of its children through the two-party system. Instead, it must join forces with scientists and youth to replace capitalism with a system that prioritizes human health over private profit.