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BRIEF19

A daily review of covid-19 research and policy.

RESEARCH BRIEFING

Do young children with covid-19 have more viral genetic material in their upper airways than adults? A new study says yes. We are not so sure.

In a new [Research Letter](#) appearing in the journal *JAMA Pediatrics*, investigators addressed the question as to whether children infected with SARS-CoV-2, the virus that causes covid-19, have lower, similar, or higher amounts of viral genetic material in their upper airways (i.e. nose and throat). It has been observed that young children typically suffer less severe symptoms when infected, but due to relatively early school and day care closures during the outbreak of the covid-19 pandemic, data on whether this also means that children spread the virus less than adults has not been definitively determined. The answers could affect school re-openings.

In this new study, the quantity of viral genetic material was measured in young children (under age 5), older children (age 5-17), and adults who had mild or moderate covid-19 illnesses. The results imply that children under 5 years old have somewhere between 10 and 100 times the amount of SARS-CoV-2 in their upper airways as compared to older children and adults. This was determined by observing how many cycles of a chemical reaction were needed for a certain threshold to be reached. Samples from children under 5 took around half as many cycles to reach the threshold.

That said, the quantity of genetic material found in nose and throat swabs is only an indirect measure of how much virus a person might spread because there is no one-to-one correlation between the presence of these molecules and the amount of fully infectious viral particles. It has been observed, for example, that infected persons can test positive for the virus (which is tested by checking for the presence of its genetic material, RNA) for far longer than they are contagious. So, the amount of RNA found in the nose or throat of an infected person may not directly imply that that individual is more contagious. Also, the manner in which this study was conducted may have altered the findings. Chiefly, the researchers excluded a significant number of children from the analysis, including asymptomatic children. Because a large percentage of children are asymptomatic, it may be that if all SARS-CoV-2 infected children had included, the average quantities of viral genetic material detected might have been much lower in the younger age groups. Other children, including those with unknown duration of symptoms or symptoms that had been present for more than one week were also excluded. It is unclear whether this had been the research plan, or whether these decisions were made once the results were analyzed (which would amount to research “cherry picking” in some instances). Therefore, all we can conclude from this study is that among the relatively few children with early symptomatic covid-19, the quantities of viral RNA are higher than older persons.

—*Jeremy Samuel Faust, MD MS*

POLICY BRIEFING

FDA expands EUA for diagnostic testing.

The Food and Drug Administration (FDA) has [announced](#) an expansion for the Emergency Use Authorization (EUA) for LabCorp's PCR test that detects SARS-CoV-2's genetic material. Following the release of data that the test's accuracy was applicable to the general population, the EUA now allows its use for asymptomatic persons as well as for pooled samples. The FDA has been moving towards such allowances since last month, when it expanded its developer templates to include tests conducted under these circumstances.

In a recent [update](#) to its testing guidance page, the Centers for Disease Control and Prevention defined pooled testing as a two-part testing strategy. Initially a batch of samples are run together and, if a result is negative, the entire group is deemed negative. A positive result, however, necessitates that each sample be then tested individually. The major benefit behind such a process is the saving of resources when a pooled sample returns positive. *Various.*

—*Joshua Lesko, MD*

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