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BRIEF19

A daily review of covid-19 research and policy.

RESEARCH BRIEFING

How many children are asymptomatic carriers of SARS-CoV-2?

It was initially thought that children were less likely to become infected with SARS-CoV-2 than adults. Descriptions from China and Italy in February and March characterized the covid-19, syndrome cause by SARS-CoV-2 infection, as most dangerous to older people with chronic illnesses. The re-opening of educational institutions raises the question how likely children are to spread the virus between each other and among teachers and staff. If an institution cannot periodically test all students and faculty, then it must identify who is at most risk if infected and who is most likely to become infected in the first place. The latter question hinges on how many people are infected with SARS-CoV-2 but show either no symptoms (“asymptomatic carriers”) or symptoms mild or vague enough to not raise suspicions.

To better understand the prevalence of asymptomatic carriers, the authors of a [new study](#) in *JAMA Pediatrics* analyzed the fraction of positive SARS-CoV-2 nasopharyngeal swabs in all patients admitted to Fondazione Ca’ Granda Ospedale Maggiore Policlinico in Milan from March 1st to April 30th, 2020 for noninfectious reasons—i.e. the tests were done for screening purposes prior to medical procedures and hospital visits having nothing to do with covid-19.

The authors compared 83 children to 131 adults. The most common reason for hospital admission for children was needing surgery while among adults neurological diseases such as a stroke or seizures were most common. The researchers found that about 1 percent of children and 9 percent of adults tested positive for SARS-CoV-2 but had no symptoms.

It is important that we do not jump to the conclusion this study means that 1 percent of children in the general population in Italy were walking around with SARS-CoV-2 but had no symptoms. Children requiring admission to a hospital for noninfectious reasons during a pandemic are likely to have other conditions, such as congenital heart disease or immune deficiencies, that increase their susceptibility to infection; treatments, such as immunosuppressive drugs after transplants, may blunt the immune system’s response preventing organ rejection, as intended, but also preventing the body from reacting (i.e. generating an immune response that we recognize as “symptomatic” covid-19) to SARS-CoV-2. Even among those without underlying medical conditions that would make asymptomatic infection more likely, patients with other ongoing medical problems are more likely to have frequent exposure to medical settings. Prior to the introduction of masks and adequate other PPE, such persons may have had far higher risks than the general population, both then and now. Nor is developing covid-19 the only concern.

This study is nonetheless important because it provides data that suggest that children are not more likely than adults to be asymptomatic carriers. The study is also useful to epidemiologists who can use to refine quantitative models to guide public policy.

—*Michael Chary, MD PhD*

There is a mental health crisis amongst healthcare providers? What is working?

The mental health implications of the covid-19 pandemic affects both patients and healthcare providers. As the crisis continues though, the weight of that burden is particularly being felt by healthcare workers, who must continue to face the disease. Previous [stories](#) have described the pervasive challenges faced by healthcare providers: upwards of 60 percent of healthcare workers have reported depressive or newly developing anxiety symptoms. In the face of that, what have we learned about the possible interventions that may relieve this, such as mental health services or social support?

A recent systematic [review](#) looking at 59 studies and over 50,000 participant healthcare workers found that mental health stress was encountered by healthcare workers around the world. Exposure to covid-19 was the most commonly reported correlate of mental health problems, followed by some demographic factors including female gender, and worry about infection or about infecting others. Of interest, despite these stressors, overall, healthcare workers reported low desire for seeking professional mental health services. Rather, most participants were interested in peer-to-peer social support and contact.

The results of this review are limited by the fact that most studies did not report any baseline data on provider mental health before the pandemic. This makes it difficult for us to tease apart whether some of these challenges were long-standing or pre-dating the recent pandemic. But several important takeaways from this broad review of the data are notable. First, the hesitation of providers to seek professional mental health services may reflect a broader medical culture fear of being seen as "weak" or "not strong enough", possibly preventing vulnerable individuals from seeking resources that may be of significant benefit to them. Additionally, the environmental aspects of working in the hospital (e.g. PPE availability, fear of safety for one's own well-being while at work) significantly contributed to much of the individual stress of the providers, leading to the notion that system level, rather than individual provider level interventions, may be critical to improving provider mental health.

—Bernard P. Chang MD PhD

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Brief19 is a daily executive summary of covid-19-related medical research, news, and public policy. It was founded and created by frontline emergency medicine physicians with expertise in medical research critique, health and public policy.