

harms do not appear in the first 10 months of life. What happens in the US health care landscape is beyond the scope of the larger BabySeq study but is a critical future step both in this area of research and for decision-making about the widespread use of WES in newborns.

Moving forward, society will have to make the collective decision about the value of WES for newborns. The BabySeq data on harms early in life and the information and diagnoses received (15 newborns had a monogenic disease risk for a childhood-onset illness and 3 had a monogenic disease risk for an adult-onset illness; 88% received carrier status and 5% received pharmacogenomic variants) paint an early picture of the net gain of WES for newborns.¹¹ As a society, how much are

we willing to pay for this information, knowing that our resources are not infinite, and every dollar spent on WES for newborns is a dollar not spent on another health service? This is not an easy question to answer in a country whose infant mortality ranks 34th according to the Organisation for Economic Co-operation and Development.¹²

Publication bias is real and bad for science.¹³ This study by Pereira et al¹ highlights the importance of “negative” studies (ie, adequately powered studies that do not have statistically significant results). Although one individual study cannot prove the null hypothesis, several sound “negative” studies can decrease the likelihood that an important signal has been missed. Pereira et al¹ have provided us that first step.

ARTICLE INFORMATION

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Addressing the Global Crisis of Child and Adolescent Mental Health

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Over the course of the past year of the global COVID-19 pandemic, growing attention has focused on the mental health and well-being of children and adolescents. The study by Racine and colleagues¹ calls attention to a critical need that must be addressed to respond to the global mental health effects of COVID-19 on the world's children and adolescents. This meta-analysis consisting of 29 studies totaling 80 879 youth globally found prevalence estimates of clinically significant depression and anxiety symptoms to be significantly higher than the estimates reported prior to the onset of COVID-19 and subsequent lockdowns. Of added



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concern, throughout the past year, the authors found that prevalence rates for depression and anxiety increased as the pandemic progressed.¹ Notably, differences were found in rates of depression and anxiety symptoms for older adolescents and girls, with both groups expressing higher rates compared with younger children and boys, respectively. Likely, these findings may not be surprising in the context of the extraordinary changes faced by youth including social isolation, loss of peer interactions, and other lost supports no longer accessible through schools and communities. Racine and colleagues¹ highlight concerning escalations in the mental health needs of children and adolescents, including important sex differ-

ences. This meta-analysis suggests that globally, children and adolescents may experience increased rates of psychological distress requiring clinical attention and emphasize the importance of continued ongoing longitudinal research to fully understand whether clinically significant symptoms are sustained, exacerbated, or resolved over time. This level of inquiry will ensure the ability to understand and respond to future mental health needs of children when these crises arise.

Prior to COVID-19, global estimates for depression and anxiety, 2 of the most common mental health conditions of childhood, were estimated to be 8.5% for depression² and 11.6% for anxiety.³ The meta-analysis by Racine and colleagues¹ suggests significantly higher rates for clinically significant depression (23.8%) and anxiety (19%) for children and adolescents, a more than 2-fold increase in prevalence rates compared with those reported prior to the pandemic.

While this meta-analysis is significant in aggregating the highest-quality published and unpublished studies to estimate increasing rates of depression and anxiety for youth, the authors appropriately note several limitations of their study. Although the mental health effects of COVID-19 on children and adolescents have been of important interest, mitigation strategies have resulted in most of the mental health diagnostic data being gathered using parent- and self-report instruments.

Another important limitation is that the study's findings represent North America, Europe, and Asia with 14 of the 29 studies specific to China, limiting generalizability of these findings, which is especially relevant because 90% of the world's children live in low- or middle-income countries.⁴ A prior meta-analysis estimating global prevalence rates for psychiatric disorders among children and adolescents from 27 countries representing every world region found that 2.6% of youth had any depressive disorder and 6.5% had any anxiety disorder.⁵ Finally, few studies included youth from racial, ethnic, or gender minority groups, who are more likely to experience mental health effects of COVID-19.⁶ Despite these limitations, Racine and colleagues¹ add to our knowledge of what must be addressed now and for the future.

The data are sobering but not surprising considering the effect that COVID-19 has had on the lives of children and families across the world. We know that the mental health of youth has been negatively affected by the COVID-19 pandemic globally⁷ and that safety measures, adaptations to schooling, and contraction of buffering community supports and services are significant contributors. Concurrently, many countries report that youth are seeking short-term mental health treatment in emergency settings.^{8,9} In some nations, children seeking care for emergency mental health services has increased with more children presenting with severe symptoms requiring hospital level care,^{8,10} and significant disparities have been noted for youth from minority groups.¹¹ What is true worldwide is that needed mental health services are largely unavailable and children are waiting for care.^{12,13}

The authors suggest urgent action to address the increasing mental health needs of youth, and fortunately, we have effective interventions to address depression and anxiety. What we do not have are easy solutions for increasing mental health access.

It is well known that access to evidence-based treatments for depression and anxiety are effective and that outcomes are poor without treatment. Kapur and colleagues¹⁴ demonstrated decreased regional suicide rates when clinicians adhered to national treatment guidelines for depression. Understanding levels of impairment among those identified with depression and anxiety symptoms will assist in targeting appropriate interventions. For example, in the meta-analysis by Polanczyk and colleagues,⁵ an increase in diagnostic prevalence rates for all mental health conditions increased when youth with symptoms but not impairment were considered. This is important because youth with subthreshold symptoms are less likely to require intensive interventions than youth who have functional impairment, highlighting the importance of understanding severity when providing interventions. In the study by Racine et al,¹ the inclusion of studies using self-report instruments with well-validated severity scales could guide us when planning treatments. For example, identifying youth with severe symptoms can facilitate planning for closer monitoring and follow-up for adherence to appointments and treatment guidelines to assure safe and effective care.

Most importantly, understanding the effect of COVID-19 across all nations will be essential to effective creation and implementation of interventions. COVID-19 has had a disproportionate effect on disadvantaged and marginalized families, highlighting disparities for youth linked to discrimination, racism, preexisting inequities, poorer access to care, increased exposure to risk, underrecognizing of illness, poor-quality treatment, limited economic resources, crowded living conditions, and the like. Also, widely seen across the globe, youth from marginalized and minority groups are also more likely to experience grief and loss of family members to COVID-19 secondary to overrepresentation of the virus in communities that have been historically marginalized.¹⁵ As noted by the authors, future studies must include low- and middle-income countries. How minority populations are psychologically affected by COVID-19, as well as access to mental health care, must be thoughtfully considered. For example, Black youth in Canada experience significant barriers in accessing mental health treatment, despite having universal health care.¹² Aboriginal youth in Australia also experience significant disparities in access to mental health care.¹³

The increased mental health needs identified in the meta-analysis call for immediate action for every country. Our responses must consider the range of child mental health infrastructures available, which vary across countries, with some having well-developed and coordinated mental health services, while others have informal, limited, underfunded, or fragmented systems of care.¹³ It is critical to identify intervention strategies that are empirically supported and culturally appropriate in countries and communities for children and families.

The authors' call for urgent action is well founded. Each country has learned lessons during COVID-19, and that knowledge should be leveraged, personalized, and shared to respond to this crisis. We have learned throughout the pandemic that universal and indicated interventions for anxiety and depressive symptoms can be delivered in communities, schools, primary care practices, or online to address symp-

toms of psychological distress before they become severe. Collaborative care models can be used to address children's health care needs in low-resource settings. Interventions may include the transfer of essential skills for mental health assessment and treatments to nonpsychiatric personnel by developing partnerships between psychiatrists and primary care clinicians and other health care workers. Task shifting can be effective for increasing access to care provided by individuals available to provide needed services despite differences in level of training. For countries with any telehealth capacity, services via text, telephone, or video can expand access to a spectrum of services for individuals and expert consultation for partners in low-resource communities. Telehealth has dem-

onstrated effectiveness for lowering the barriers to seeking treatment for those with suicidality, depression, and anxiety.¹⁶

Strengthening these accessible mental health resources in communities for children and families would decrease use of high-acuity emergency psychiatric services, which are limited in most countries.¹³

The COVID-19 pandemic is a global call to action. We are experiencing a global public health crisis in youth mental health that began long before the pandemic, and we must advocate for implementation of evidence-supported practices that are scalable, expands access to care, and eliminates disparities worldwide. We must lead the charge for equitable mental health care for all children across the world.

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Yes, Children Can Transmit COVID, but We Need Not Fear

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The iconic article "Cuddlers, Touchers, and Sitters" (formerly entitled "Modes of Transmission of Respiratory Syncytial Virus") by Hall and Douglas¹ stands to this day as one of the simplest recitations of the behavior of respiratory viruses and children. With an elegant and simple study design, Hall and Douglas vividly demonstrated that it's the interactions between susceptible and infected persons that drive much of viral transmission. For those who do not recall this study,

Hall and Douglas examined the likelihood of transmission from an infant infected with respiratory syncytial virus (RSV) to an adult caretaker who either sat with the infant on their lap, touched the infant while they laid in their crib, or sat next to the crib. We can now predict the outcomes—cuddlers were the most likely to get infected. While the classic diagram of the "chains of transmission" helps us break down some the factors that determine onward transmission, many respiratory viruses rely on time, proximity, and contact to spread.



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