Adult vaccination rates and social determinants of health—or the social and economic conditions in which families live and work—have played an important role in children's mental health during the pandemic, according to a new study led by Weill Cornell Medicine investigators.

The study, published April 27 in *JAMA Psychiatry*, found that stress surrounding the pandemic in the United States declined in children after the vaccinations were rolled out for adults in December 2020.

"Children who are living in states with higher vaccination rates may be less worried about the future of this pandemic," said lead author Dr. Yunyu Xiao, assistant professor of population health sciences at Weill Cornell Medicine. "Getting vaccinated may also affect the mental health of parents and the home environment that kids are living in."

Social determinants of health that influenced children's mental health during the pandemic include food insecurity, unemployment, disrupted access to health care, and having parents who were essential workers. "Many of these structural and social issues existed before the pandemic but were further exacerbated by it," Dr. Xiao said.

Dr. Xiao and her colleagues, Dr. John J. Mann of Columbia University, Dr. Paul Yip of the University of Hong Kong and Dr. Jyotishman Pathak of Weill Cornell Medicine, assessed data from 8,493 children in the Adolescent Brain Cognitive Development (ABCD) study, a long-term analysis of brain development in children funded by the National Institutes of Health with 21 research sites across the United States. This study also included survey data about the mental and social impact of the COVID-19 pandemic. In addition, the researchers evaluated geocoded COVID-19 data describing the local environment—including COVID-19 prevalence and social distancing metrics—for each study participant. They also cross-referenced vaccination eligibility data, as well as full vaccination rates for adults across 17 states.

They discovered that stress, sadness, and COVID-related worry decreased significantly after the adult vaccination rollout. Moreover, children living in states with later vaccination eligibility dates for adults or fewer fully vaccinated adults experienced greater COVID-related worry and stress.

Groups of children that reported high rates of stress were older, female, Hispanic, had parents who were separated, experienced interruptions to healthcare, lived in economically deprived neighborhoods or in areas with more full-time, working-class adults who were unable to social distance; that is, essential workers. Children who were Asian, Black, or multi-racial also reported...
higher rates of COVID-related worry than white children.

A variety of local, statewide, and federal policies can help to alleviate stress in children, including those that seek to vaccinate the adults in their lives, Dr. Xiao said. In addition, policies that target food insecurity and offer nutrition assistance, extend unemployment insurance and moratoria on housing evictions, expand healthcare coverage, and support essential workers would also be beneficial. The development and expansion of broadband services so that more communities have access to telehealth services is another avenue that should be explored. "Structural level changes are needed to prepare for the next public health emergency," Dr. Xiao said.

Dr. Xiao and the study team plan to investigate additional social determinants of health, including the pandemic preparedness of schools and the pre-pandemic mental health of children, and how they have influenced the overall well-being of children.

"We also want to better understand how various policies that have been implemented are affecting children's mental health," she said. "This could ultimately help policymakers know what resources they should invest in."


Provided by Weill Cornell Medical College

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