

Pandemic health behaviors linked to rise in neonatal health issues

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Studies show that social distancing and other public health measures during the COVID-19 pandemic effectively reduced the spread of the deadly virus. However, they had unanticipated effects such as reduced

health care accessibility and utilization, especially in high-risk populations.

Researchers at the University of Alabama at Birmingham evaluated potential effects of pandemic-related behavior changes on [neonatal mortality](#) and [preterm](#) birth rates.

A correlation was found between the [social distancing](#) index, a measure of overall social distancing behaviors observed, and higher rates of neonatal and early neonatal mortality, as well as preterm birth, when assessed with a lag period. [Results](#) were published in *JAMA Network Open*.

"COVID-19 affected the health care systems globally, and many lives were lost; it is important to learn from this experience to prepare better for possible future health crises," said Vivek Shukla, M.D., assistant professor in the UAB Division of Neonatology and lead author.

"We need to understand how changes in health behavior affected outcomes, whether people had limited access to care or healthy habits were altered."

Maternal pregnancy complications increase the risk of preterm delivery and neonatal morbidity. These complications are a major contributor toward neonatal mortality. During the COVID-19 pandemic, [pregnant women](#) encountered substantial obstacles in accessing health care.

According to the American Medical Association, 81% of physicians were providing fewer in-person visits when surveyed in July and August of 2020 than pre-pandemic and the average in-person visits fell from 95 to 57 per week.

"The observed correlations may be due to changes in health care access

during periods of increased social distancing, such as fewer prenatal visits," said Rachel Sinkey, M.D., associate professor in the UAB Division of Maternal-Fetal Medicine and co-author.

"These appointments are important to catch and address complications that could be life-threatening to both mom and baby."

Defining the trend

The population-based study used data from the Centers for Disease Control and Prevention's National Center for Health Statistics. The team evaluated neonatal mortality and preterm birth rates from 2016-2019 and compared them to 2020 rates.

In unadjusted comparison, the rates appeared to be lower. When adjusted for a declining trend observed in the 2016–2019 period using an Auto Regressive Integrated Moving Average model, the rates were not significantly different.

Shukla further analyzed the correlation between the Social Distance Index, which indicated overall population mobility during the pandemic, with neonatal mortality and preterm birth rates in 2020.

On a first look, there was no significant correlation; but when a lag period was added, higher SDI was associated with higher neonatal mortality rates with a two-month delay and with higher preterm [birth](#) rates with a one-month delay.

"With these in-depth analyses, we could account for the effect of a potential delay, or lag time, receiving access to care could have on the mortality and [preterm birth](#) rates," Shukla said.

"The results indicate a need for more in-depth studies on the unintended

effects of pandemic-related health behavior changes. Conducting additional studies is an important step for providers and public health experts to better prepare in case there is a next public health crisis."

More information: Shukla VV, et al. Social Distancing During the COVID-19 Pandemic and Neonatal Mortality in the US. *JAMA Network Open*. (2024) [DOI: 10.1001/jamanetworkopen.2024.22995](https://doi.org/10.1001/jamanetworkopen.2024.22995)

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