

Traumatic childhood increases lifelong risk for heart disease, early death

April 28 2020



3D Model of the heart by Dr. Matthew Bramlet. Credit: NIH

Exposure to trauma and other adverse experiences during childhood increases lifelong risk for cardiovascular disease and death, regardless of a person's health during young adulthood, new research shows.

The study, published Tuesday in the *Journal of the American Heart Association*, found children who experienced severe adversity—such as verbal, physical or emotional abuse or living with drug or alcohol abusers—were 50% more likely to develop cardiovascular disease later in life than those with low exposure to [childhood trauma](#). Those with even moderate exposure were 60% more likely to die from any cause by middle adulthood.

This could be, researchers believe, because people who face severe adversity as children undergo a combination of behavioral and biological responses not yet fully understood. Previous research shows part of what happens is people are more likely to develop unhealthy coping mechanisms, such as smoking and poor eating habits, which contribute to traditional cardiovascular risk factors, such as [high blood pressure](#), obesity, inflammation and diabetes.

But even after controlling for such risk factors, this long-term study found higher rates of heart disease and mortality in those who experienced [childhood stress](#) as they reached middle age compared to those who did not.

"Childhood trauma impacts your ability to appropriately handle stress," said lead investigator Jacob Pierce, a fourth-year medical student at Northwestern University's Feinberg School of Medicine in Chicago.

"What our analysis shows is that there are also other risk factors we did not account for that put these people at risk for cardiovascular outcomes later in life."

Pierce and his team analyzed data from 3,646 people in a study conducted from 1985 to 2018 in four cities: Birmingham, Alabama; Chicago; Minneapolis; and Oakland, California.

Participants were enrolled between the ages of 18 and 30 and followed

for more than 30 years. The analysis found more than 20% experienced a high rate (four or more out of seven indicators) of exposure to damaging [childhood](#) events—and those participants had health troubles from young adulthood well on into middle age.

"The results of this study further confirm that cardiovascular disease is not simply a problem at older ages, but has its origins in [childhood experiences](#)," said Karestan C. Koenen, a professor at Harvard University's T.H. Chan School of Public Health in Boston. She was not involved in the study.

"Some of the relation between childhood adversity and (cardiovascular disease) seems to be explained by traditional risk factors, but those don't explain the entire relationship or the relationship with mortality," Koenen said. She was on a committee that wrote a 2017 American Heart Association scientific statement about childhood adversity and heart health outcomes.

"It's a complex issue that can't be boiled down to one reason," Pierce said. Childhood is a critical period of development for the brain. Exposure to stress activates hormones in the brain, which also are associated with [cardiovascular disease](#), an area of interest for future study, he said. "We really need to look at the biology. What are the mechanisms in the body that are putting these people at risk?"

In the meantime, better and broader approaches to the way we treat children faced with traumatic experiences could help, Koenen said.

"Despite overwhelming evidence that childhood adversity has negative effects on physical and mental health over the life course, preventing childhood adversity is left to pediatricians and others who work with children," she said. "The public health burden of childhood [adversity](#) in the U.S. is a social problem that cannot be placed on the shoulders of

individual health providers, but must be tackled on a large scale."

More information: Jacob B. Pierce et al, Association of Childhood Psychosocial Environment With 30-Year Cardiovascular Disease Incidence and Mortality in Middle Age, *Journal of the American Heart Association* (2020). [dx.doi.org/10.1161/JAHA.119.015326](https://doi.org/10.1161/JAHA.119.015326)

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Citation: Traumatic childhood increases lifelong risk for heart disease, early death (2020, April 28) retrieved 20 March 2024 from <https://medicalxpress.com/news/2020-04-traumatic-childhood-lifelong-heart-disease.html>

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