

Research: Fluctuating Income May Be Associated with Increased Heart Disease Risk

Young adults who had two or more significant drops in income over a 15-year period had nearly double the risk of cardiovascular disease or dying prematurely.

A study led by public health researchers at the University of Miami Miller School of Medicine has shown that sudden, unpredictable drops in personal income during young adulthood are associated with an increased risk of developing heart disease and/or dying from any cause. The [new research](#) was published on January 7 in the American Heart Association's journal *Circulation*.

In the United States, the recent rise in income inequality suggests that a larger proportion of the population faces poverty and economic difficulties. In addition, while most people experience some income change, income volatility has been on the rise and has reached a record high level since 1980.

The study found that the biggest fluctuations in personal income were significantly associated with nearly double the risk of death and more than double the risk for cardiovascular diseases, such as [heart attacks](#), [strokes](#), [heart failure](#) or death during the following 10 years compared to a similar group of people with less fluctuation in personal income. Women and African-Americans were more likely to experience high-income volatility and income drops than white men.

"Income volatility presents a growing public health threat, especially when federal programs, which are meant to help absorb unpredictable income changes, are undergoing continuous changes, and mostly cuts," said study lead author Tali Elfassy, Ph.D., assistant professor of epidemiology in the Miller School's Department of Public Health Sciences.

"While this study is observational in nature and certainly not an evaluation of such programs, our results do highlight that large negative changes in income may be detrimental to heart health and may contribute to premature death," Dr. Elfassy said.

The study analyzed data from the ongoing Coronary Artery Risk Development in Young Adults (CARDIA) study that is following 3,937 people living in four diverse U.S. cities - Birmingham, Alabama; Minneapolis, Minnesota; Chicago, Illinois; and Oakland, California. Participants were aged 23-35 years old in 1990 when the study began.

The researchers collected data on changes in income in five assessments from 1990 to 2005. They measured income volatility as the percent change in income from one measurement to the next, and income drop as a decrease of 25 percent or more from the previous assessment. Between 2005 and 2015, the researchers assessed fatal and non-fatal cardiovascular events and all causes of death using medical records and death certificates.

The study was not able to determine the cause of the association between income volatility and health because it was observational and not designed to prove cause and effect.

Study co-authors are Samuel L. Swift, M.P.H.; M. Maria Glymour, Sc.D.; Sebastian Calonico, Ph.D.; David R. Jacobs, Jr., Ph.D.; Elizabeth R. Mayeda, Ph.D.; Kiarri N. Kershaw, Ph.D.; Catarina Kiefe, Ph.D., M.D.; and Adina Zeki Al Hazzouri, Ph.D.

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