

Young adults who experienced intimate partner violence may face higher cardiac risks later

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Experiencing a violent encounter even once with an intimate partner or family member may increase a young adult's risk of having a heart

attack, stroke or a heart failure hospitalization years later, according to preliminary research to be presented at the American Heart Association's Scientific Sessions 2022. The meeting, held in person in Chicago and virtually, Nov. 5-7, 2022, is a premier global exchange of the latest scientific advancements, research and evidence-based clinical practice updates in cardiovascular science.

According to the Centers for Disease Control and Prevention (CDC): intimate [partner](#) violence is defined as physical, emotional or mental abuse or aggression that occurs in a romantic relationship from a current or former spouse or dating partner. It includes physical violence, [sexual violence](#), stalking and psychological aggression, including verbal or non-verbal communication with the intent to harm a partner mentally or emotionally or to exert control over a partner. About 1 in 4 women and nearly 1 in 10 men reported experiencing sexual violence, [physical violence](#) and/or stalking by an intimate partner during their lifetime and reported some form of intimate partner violence-related impact. More than 43 million women and 38 million men in the U.S. have experienced psychological aggression by an intimate partner in their lifetime, according to current CDC statistics.

Women ages 18 to 34 years generally experience the highest rates of intimate partner violence, according to the [National Domestic Violence Hotline](#).

"There is a growing body of evidence that links intimate partner violence—a significant mental and physical trauma—to adverse cardiovascular outcomes," said lead study author Kathryn Recto, B.A., a candidate in the M.D./M.P.H. dual-degree program at Northwestern University's Feinberg School of Medicine in Chicago. "Most of the current evidence is limited to self-reports of cardiovascular health and analyses from a single point in time, so the fact that this study, which tracked participants for almost 30 years, was able to detect an

association, is very interesting."

Research staff collected information on hospitalizations and outpatient medical procedures during routine examinations and annual appointments. If there were any hospitalizations or outpatient visits, medical records were requested and were used by physicians to review clinical CVD events. This study explored whether past exposure to intimate partner violence was possibly linked to future cardiovascular health, and how these associations may manifest across a person's lifetime.

Researchers evaluated data from the Coronary Artery Risk Development in Young Adults Study (CARDIA), a long-term study that began in 1985, among more than 5,000 Black and white adults, ages 18–30 years at enrollment, to examine factors that contribute to the development of cardiovascular disease. CARDIA enrolled participants at four different centers throughout the United States: Birmingham, Alabama; Chicago; Minneapolis; and Oakland, California. The study was designed to include a similar number of people at each center with comparable baseline characteristics on race, gender and education level. About half of the CARDIA participants (51.5%) self-identified as Black adults; 54.5% were women; and 60% of the participants had pursued education beyond the high school level.

The study participants were asked to participate in follow-up health appointments every 2-5 years. While the aim of each clinic visit varied, data were collected throughout the 28-year follow-up on numerous risk factors related to [heart disease](#), such as blood pressure, glucose, cholesterol, dietary patterns, body composition, substance abuse, MRI tests, psychological health and family history, as well as health conditions including [heart problems](#), Type 2 diabetes and its complications, sleep apnea, adverse pregnancy outcomes, kidney problems, liver disease, cancer, respiratory diseases, depression and

death.

For this analysis, researchers examined questionnaires completed in 1987 and 1988 from more than 4,300 people to assess exposure to domestic violence. The survey asked how frequently within the past year they had become involved in a violent argument with the following people: 1) with a spouse/lover (intimate partner); 2) with family other than spouse/lover; 3) with someone else they knew; 4) with someone they did not know. They were also asked if they kept a gun at home for protection. The researchers then tabulated and reviewed the survey responses and analyzed statistical models to relate the survey responses to non-fatal heart attacks, non-fatal strokes, heart failure hospitalization and death related to other cardiovascular causes among the participants. The analysis was adjusted for risk factors, including body mass index, smoking, doctor or nurse diagnosed nervous or mental disorder, Type 2 diabetes diagnosis and more, to examine the association with intimate partner violence exposure and the occurrence of cardiovascular events or death.

The data analysis found:

- People who reported at least one exposure to intimate partner violence within the past year at the beginning of the study also had higher consumption of alcohol (16 milliliters/day or .5 ounces a day) among those who reported exposure to intimate partner violence vs. 11 ml/day or .4 ounces a day) for those who had no exposure; smoked more (3.3 pack-years for those who experienced intimate partner violence vs. 2.4 pack-years for no exposure); and were more likely to report depression (8.3% for exposure vs. 6.0% in no exposure) at survey completed at start of the study .
- 62% of the participants who reported experiencing intimate partner violence were Black adults and 38% were white adults.

- Exposure to intimate partner violence or family violence was associated with at least a 34% higher risk for cardiovascular events and at least a 30% increased risk of death from any cause when adjusting for age, sex and race.
- Having more than one violent episode with an intimate partner in the past year also increased the risk of death by 34% from any cause after additional adjustment for cardiovascular risk factors. The increased risk of death was 59% among those who reported the violent episode involved a family member other than a spouse/lover; 34% if the episode involved someone else they knew and 26% if it involved someone they did not know.

"The results suggest that intimate partner violence appears to be very much related to a higher risk of cardiovascular events or death," Recto said. "It is imperative that we better understand the association between these two public health problems so that improved interventions can be developed and implemented. It is our hope that our study reinforces the need for routine screening by clinicians that assesses intimate partner violence, particularly because people with a history of intimate partner violence may need to be monitored more closely for increased risk of cardiovascular events in the future."

Randi Foraker, Ph.D., M.A., FAHA, vice chair of the American Heart Association's Epidemiology & Cardiovascular Stroke Nursing Prevention Science Committee, noted that the abstract uses the best available data on violence and modifiable cardiovascular risk factors among young adults to produce "our best estimate of cardiovascular risk attributable to violence."

"The authors were careful to adjust for other modifiable cardiovascular disease risk factors, such as smoking, alcohol and depression, to reduce the impact of these risk factors in the analysis," said Foraker, who is a professor of medicine and director of the Center for Population Health

Informatics at I² at Washington University School of Medicine in St. Louis. "This work highlights the need for increased monitoring of individuals who experience incidents of violence for cardiovascular disease risk and monitoring of [risk factors](#)."

The study authors also note that future research should investigate the biochemical pathways that may link [intimate partner violence](#) and cardiovascular disease.

Study limitations include that participants were only asked about the number of episodes of [intimate partner violence](#) at the beginning of the study, and it was not assessed at any other time in the study. In addition, the definition of what constitutes a "violent or potentially violent argument" was not clearly defined, therefore, responses may be inaccurate or misleading due to variations in individual perceptions of the event. Additionally, the CARDIA study includes only Black and white adults.

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More information: Abstract: [www.abstractsonline.com/pp8/?& ...
1/presentation/15839](http://www.abstractsonline.com/pp8/?&...1/presentation/15839)

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