

# Stressful events can take big toll on those struggling most with death of spouse

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Widowed individuals experiencing intense grief after the loss of their spouse experience a significant increase in body inflammation following other stressful events, according to new research from Rice University.

It's a concerning finding for the research team, since body inflammation is linked to a host of health problems, including serious cardiovascular issues and premature death. The researchers outlined their findings in the paper "Grief Symptoms Promote Inflammation During Acute Stress Among Bereaved Spouses," which will appear in an upcoming edition of *Psychological Science*.

First author Ryan Linn Brown is a recent Ph.D. graduate in the Department of Psychological Sciences at Rice and part of the Biobehavioral Mechanisms Explaining Disparities (BMED) lab. She and her fellow researchers were interested in the change in levels of inflammatory biomarkers in widowed and deeply [grief](#)-stricken spouses before and in the two hours immediately after a stressful experience. They studied 111 adults between ages 35 and 84 who had lost a spouse in the past year.

"I was extremely motivated to publish this work because it gives us insight into how severe grief can encourage [inflammation](#) to accumulate in the body and put widow(er)s at risk for [cardiovascular disease](#)," Brown said. "Because we face many [stressful events](#) each day as humans, this type of response to stress in the lab means that this same process is likely happening repeatedly throughout each day or week for widows or widowers experiencing more severe grief symptoms."

The study included a baseline blood draw followed by an experiment featuring stressful scenarios. This included an on-camera job interview with rapid-fire questioning from experiment administrators and being forced to do complicated math tasks. Study participants then had their blood drawn again 45 minutes and two hours after the experiment.

On average, those who admitted experiencing intense grief following the loss of their spouse—including deep sorrow, numbness, yearning and loss of focus—had a 19% greater increase in inflammatory biomarkers

in their bloodstream after the [stressful situations](#) than those who reported less severe grief.

Chris Fagundes, the paper's senior author and an associate professor in the Department of Psychological Sciences, said the study adds to his lab's understanding of the biobehavioral mechanisms underlying the "widowhood effect" and provides more evidence that grief directly influences the inflammatory stress response.

**More information:** Ryan L. Brown et al, Grief Symptoms Promote Inflammation During Acute Stress Among Bereaved Spouses, *Psychological Science* (2022). [DOI: 10.1177/09567976211059502](https://doi.org/10.1177/09567976211059502)

Provided by Rice University

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