Medical Xpress

For the brokenhearted, grief can lead to death

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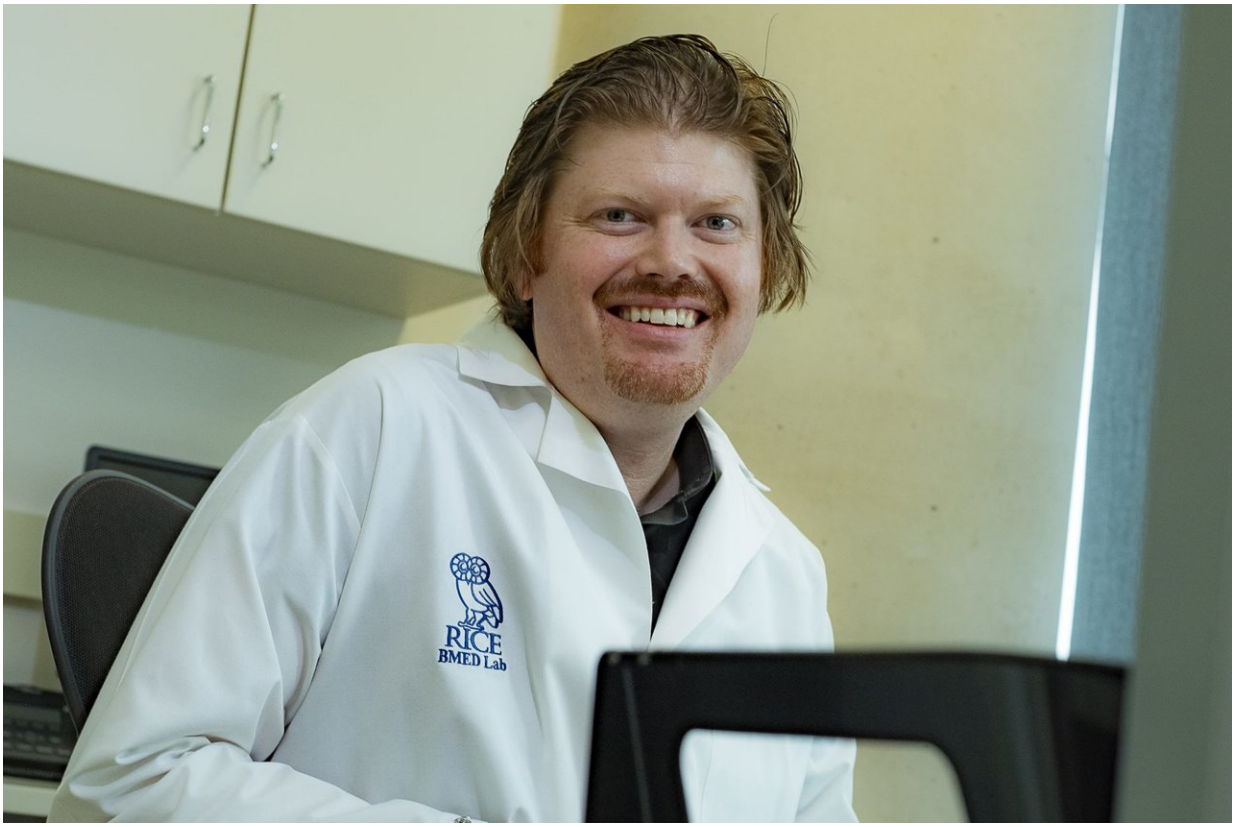

Chris Fagundes. Credit: Jeff Fitlow/Rice University

Grief can cause inflammation that can kill, according to new research from Rice University.

The study, "Grief, Depressive Symptoms and Inflammation in the Spousally Bereaved," will appear in an upcoming edition of *Psychoneuroendocrinology*. It examines the impact grief has on human health. It builds on previous research from the lab of Chris Fagundes, an assistant professor of psychological sciences at Rice University and the study's lead author, who studied risk factors for inflammation.

Rice researchers conducted interviews and examined the blood of 99 people who spouses had recently died. They compared people who showed symptoms of elevated grief—such as pining for the deceased, difficulty moving on, a sense that life is meaningless and inability to accept the reality of the loss—to those who did not exhibit those behaviors. The researchers discovered that widows and widowers with elevated grief symptoms suffered up to 17 percent higher levels of bodily inflammation. And people in the top one-third of that group had a 53.4 percent higher level of inflammation than the bottom one-third of the group who did exhibit those symptoms.

"Previous research has shown that inflammation contributes to almost every disease in older adulthood," Fagundes said. "We also know that depression is linked to higher levels of inflammation, and those who lose a spouse are at considerably higher risk of major depression, heart attack, stroke and premature mortality. However, this is the first study to confirm that grief—regardless of people's levels of depressive symptoms—can promote inflammation, which in turn can cause negative health outcomes."

This finding is an important revelation in the study of how human behaviors and activities impact inflammation levels in the body, Fagundes said, and it adds to a growing body of work about how bereavement can affect health. His initial work showed why those who have been widowed are at higher risk of cardiovascular problems, bodily symptoms and premature mortality by comparing inflammation in

spousally bereaved individuals to matched controls.

"This work shows who, among those who are bereaved, are at highest risk," Fagundes said. "Now that we know these two key findings, we can design interventions to target this risk factor in those who are most at risk through behavioral or pharmacological approaches."

The study was co-authored by Rice psychological sciences graduate students Ryan Brown and Michelle Chen; Kyle Murdock, an assistant professor of biobehavioral health at Pennsylvania State University and a former postdoctoral research fellow in the Fagundes laboratory at Rice; Levi Saucedo, a research assistant at Rice; Angie LeRoy, a postdoctoral research fellow at Rice; Lydia Wu, a fellow in psychological sciences at Rice; Luz Garcini, a postdoctoral research fellow at Rice; Anoushka Shahane, a Ph.D. student at Rice; Faiza Baameur, a postdoctoral fellow of pharmacology at Vanderbilt University; and Cobi Heijnen, a researcher at MD Anderson Cancer Center in Houston.

This work was supported by the National Heart, Lung and Blood Institute. To obtain a copy of the study, contact David Ruth, director of national media relations at Rice, at 713-348-6327 or david@rice.edu.

More information: Christopher Fagundes et al, Grief, Depressive Symptoms, and Inflammation in the Spousally Bereaved, *Psychoneuroendocrinology* (2018). DOI: 10.1016/j.psyneuen.2018.10.006

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