

## Inflammation can fan the flames of depression

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Chronic inflammation in the bloodstream can "fan the flames" of depression, much like throwing gasoline on a fire, according to a new paper from researchers at Rice University and Ohio State University.



"Inflammation: Depression Fans the Flames and Feasts on the Heat" appeared in a recent edition of the *American Journal of Psychiatry*. The study reviewed 200 existing papers on <u>depression</u> and inflammation.

"In the health area of psychology at Rice, we're very focused on the intersection of health behavior, psychology and medicine," said Christopher Fagundes, an assistant professor of psychology and coauthor of the paper. "One thing that we're particularly interested in is how stress affects the immune system, which in turn affects diseases and mental health outcomes, the focus of this paper."

The authors found that in addition to being linked to numerous <u>physical</u> <u>health issues</u>, including cancer and diabetes, <u>systemic inflammation</u> is linked to <u>mental health issues</u> such as depression. Among patients suffering from clinical depression, concentrations of two inflammatory markers, CRP and IL-6, were elevated by up to 50 percent.

Fagundes said chronic inflammation is most common in individuals who have experienced stress in their lives, including lower socio-economic status or those who experienced abuse or neglect as children. Other contributing factors are a high-fat diet and high body mass index.

"Previous research shows that individuals who have socio-economic issues or had problems in their early lives are already at higher risk for mental issues because of these stresses in their lives," Fagundes said. "As a result, they often experience a higher occurrence of chronic inflammation, which we have linked to depression."

He said that it is normal for humans to have an inflammatory response – such as redness – to an area of the body that is injured.

"This is your immune system working to kill that pathogen, which is a good thing," Fagundes said. "However, many individuals exhibit



persistent systemic inflammation, which we're finding is really the root of all physical and mental diseases. Stress, as well as poor diet and bad health behaviors, enhances inflammation."

Fagundes noted that a strong support system early in life is critical in helping individuals learn to deal with stress later in life.

The study also found that depression caused by <u>chronic inflammation</u> is resistant to traditional therapy methods, but can be treated with activities such as yoga, meditation NSAIDS and exercise.

Fagundes hopes the study will shed light on the dangers of bodily inflammation and the steps that can be taken to overcome this <u>health</u> issue.

He is starting a five-year \$3.7 million bereavement study to examine how inflammation impacts depression and disease among those who recently lost a spouse in hopes of finding better ways to treat bereaved older adults.

"We still have a lot to learn about how <u>inflammation</u> impacts depression, but we are making progress," he said "We hope one day this work will lead to new treatments that are part of standard psychiatric care."

## Provided by Rice University

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