

# Migraines, strokes may be linked to childhood adversity

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(Medical Xpress) -- Migraines, strokes and other inflammatory diseases suffered by some adult women may be linked to adverse experiences that occurred during childhood, says a new study co-authored by a Ball State University researcher.

A study of 140 women between the ages of 18 and 50 found a strong correlation between incidents of childhood [adversity](#) and migraines, chronic daily headaches and [inflammation](#) that leads to strokes, said Jagdish Khubchandani, a community health education professor in Ball State's Department of Physiology and Health Science and a faculty fellow with the university's Global Health Institute.

"Our research found there were higher levels of blood abnormalities — also known as biomarkers — with chronic daily headaches and migraines in adult females who self-reported suffering some sort of abuse or negative event at a younger age," Khubchandani said. "Since migraines are a major risk factor for strokes, we may have potentially found a cause for what could be a debilitating health event for many people. The evidence supporting the biologic plausibility of this theory is growing."

Participants in the study included 100 women with frequent and infrequent headaches along with 41 headache-free subjects. Blood and urine samples were taken to determine the presence of various biomarkers that could indicate medical problems.

The women were also asked to complete a 10-item adverse childhood experience (ACE) questionnaire that asked the participants about experiences occurring before the age of 18, including abuse (emotional, physical or sexual), neglect (emotional or physical) and exposure to household dysfunction (violence, parental substance abuse, mental illness, criminal behavior, parental separation or divorce).

The study found:

- About 79 percent of women with migraines reported suffering adversity during childhood as compared to 21 percent of the headache-free.
- Participants reporting continuous headaches had an adversity score of 3.24 while participants without headaches had a significantly lower adversity score of 1.53.
- Participants reporting frequent migraines were more likely identify themselves as lower income and less educated. They were smokers with higher body mass indexes and hypertension.
- Participants with adverse childhood experiences were more likely to report chronic daily headaches and have increased blood levels of markers for [stroke](#) and blood clotting.

The American Headache Society published the research in the April edition of its journal, *Headache*. The research also received the Harold G. Wolff Lecture Award from the organization.

Khubchandani points out the study is the first to examine the association of biomarkers for endothelial dysfunction (a condition in which the endothelial, or inner lining of blood vessels, does not function normally) with migraines and [childhood adversity](#) in the same cohort.

It is also the first research project to establish the relationship of adult [headaches](#) and childhood adversity using physician-applied criteria and

the ACE questionnaire to survey a range of adverse childhood events.

Provided by Ball State University

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