Childhood trauma linked to reduced vascular function and diminished sleep quality

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Researcher Laura Schwager. Credit: American Physiological Society

Adverse childhood experiences (ACEs) contribute to reduced vascular function and diminished sleep quality in young adults, according to a study at the University of Iowa. In addition, researchers found that poor sleep efficiency may contribute to vascular dysfunction with increasing ACEs exposure. Researchers will present their work this week at the American Physiology Summit, the flagship annual meeting of the

American Physiological Society (APS), in Long Beach, California.

ACEs are highly stressful and potentially traumatic events happening during the first 18 years of life, which is the critical development period in a person's life. It's already known that people who experience ACEs have a higher risk for cardiovascular disease later in life. Yet, the biological mechanisms underlying this health disparity are not fully understood. The goal of this study was to better understand how ACEs increase the risk of cardiovascular disease to aid the development of better preventive measures and treatments.

Researchers assessed 22 young men and women for ACE exposure, anxiety and depressive symptoms, using the Zung Self-Rating Anxiety and Center for Epidemiologic Studies Depression scales, respectively. The research team also measured the functional health of the participants' blood vessels by assessing the ability of the artery in the arm to dilate in response to an increase in blood flow.

The team found among young adults, ACEs have a negative impact on blood vessel function, while sleep efficiency has a positive effect regardless of anxiety or depression symptoms. Also, sleep efficiency appears to be a mediator of the relationship between ACEs and blood vessel function.

"These findings have significant implications for human health," said Laura Schwager, lead author of the study and postbaccalaureate research coordinator at the University of Iowa. "But we also caution that this is a preliminary investigation, and we will need studies with larger, more diverse samples to confirm this relationship and also to examine whether improving sleep in those with ACEs results in improved vascular function and lower cardiovascular disease risk."

More information: Conference: www.physiology.org/professiona …

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