

New heart rate based biomarker strongly linked to depression

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Credit: George Hodan/Public Domain

Emory investigators have discovered a compelling link between a new heart rate variability biomarker (Dyx) and depression. Depression is a known predictor of adverse events, although the reasons for this relationship are still debated.

Led by Amit J. Shah, MD, MSCR, assistant professor of Epidemiology

at the Rollins School of Public Health at Emory University, the team of researchers evaluated 443 middle-age male twins from the Vietnam Era Twin Registry who underwent 24-hours of ambulatory Electrocardiography (ECG). The researchers analyzed hourly Dyx and measured and evaluated depressive symptoms. Findings showed a significant dose-response relationship between depressive symptoms and lower Dyx, indicating that those with increased depressive symptoms have a potentially higher risk of [ischemic heart disease](#), arrhythmia, and death. Adjustment for lifestyle factors did not explain this relationship. Additionally, when comparing within twin pairs, the brother who had more depressive symptoms had a lower Dyx.

Results of the study were presented at the Annual Meeting of the American Psychosomatic Society on March 18th in Seville, Spain.

"We suspected that in the sample of veteran male twins, depressive symptoms would be independently associated with reduced Dyx however, we were impressed at how compelling the [relationship](#) was between Dyx and [depressive symptoms](#), indicated by the clear dose response we observed," explains Shah. "This supports the conceptual framework that depression has direct cardiotoxic effects mediated by the autonomic nervous system."

Provided by Emory University

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