

# Blood tests may be possible for mental health conditions

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Blood tests for panic disorder and other mental health conditions are potentially around the corner, based on results from a University of Iowa study.

The findings, which were based on analysis of genetic information in immature white blood cells, appear online March 6 in the *American Journal of Medical Genetics*.

"The ability to test for panic disorder is a quantum leap in psychiatry," said the study's lead author, Robert Philibert, M.D., Ph.D., professor of psychiatry in the UI Roy J. and Lucille A. Carver College of Medicine.

"Panic disorder will no longer be a purely descriptive diagnosis, but, as with cystic fibrosis, Down syndrome and other conditions, a diagnosis based on genetic information," he said. "In addition, the finding could help us better understand the pathways that initiate, promote and maintain panic disorder."

The team compared gene expression in lymphoblasts (immature white blood cells) culled from 16 participants with panic disorder and 17 participants without the disorder. The study found many genes were more expressed in people with panic disorder than in people without the condition. Similarly, the study found many genes were less expressed in people with panic disorder. There were also sex-related differences.

Overall, people with panic disorder had noticeably different patterns of

gene expression than people without the disorder. Although panic disorder is a disease of brain cells, the study used lymphoblasts as "stand-ins" for the genetic testing because brain cells are not accessible or easily tested.

Approximately 3 percent of people in the United States have panic disorder, which involves having at least one panic attack every four weeks. Panic attacks can involve up to 10 symptoms, including palpitations, shortness of breath, sweating and a feeling of loss of control or dying -- symptoms that are very similar to heart attack symptoms.

"People with panic disorder often end up in the emergency room for heart tests when in fact they have panic disorder. This is just one of the reasons that it would be helpful to have a blood test for panic disorder," Philibert said.

A blood test for commercial use is now being developed by the UI, which raises larger questions about how information revealed by such tests will be used. The issue of patient medical records and how they can potentially be used by employers, insurers, government agencies and other institutions is a concern, Philibert said.

"Science is like a hammer. You can use it to build a house or break a window," Philibert said. "We certainly intend for this finding to help people manage their disease, and when possible, to prevent it from affecting their lives.

"If we can, it could help us identify systems that interact with the environment and possibly lead the way to new, even non-drug, therapies to prevent illness," he added.

Source: University of Iowa

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