A researcher says he has identified multiple types of depression, including three that don't involve serotonin. And he says all can easily be diagnosed with blood or urine tests.

Most psychiatrists believe that depression is caused by low levels of the chemical serotonin. This is why the treatment for depression is often selective serotonin reuptake inhibitors (SSRIs), which boost serotonin levels in the brain.

But a new study suggests that there are at least five biotypes of clinical depression. William J. Walsh, Ph.D., president of the Walsh Research Institute, and his team looked at about 300,000 blood and urine chemistry test results and 200,000 medical history factors from approximately 2,800 patients diagnosed with depression. They found that five major depression biotypes represented about 95 percent of the patients.

Upon close examination, Walsh and his team discovered that three of these forms of depression are not caused by fluctuating serotonin levels.

5 Biotypes of Depression
The five defined depression biotypes are:

**Undermethylated Depression**
This type of depression was found in 38 percent of patients in the study. The problem in these cases is low activity at serotonin receptors, apparently due to rapid reabsorption after serotonin is released into a synapse.

"It's not serotonin deficiency, but an inability to keep serotonin in the synapse long enough. Most of these patients report excellent response to SSRI antidepressants, although they may experience nasty side effects," Walsh said.

**Pyrrole Depression**
This type was found in 17 percent of the patients studied, and most of these patients also said that SSRI antidepressants helped them. These patients exhibited a combination of impaired serotonin production and extreme oxidative stress.

**Copper Overload**
Accounting for 15 percent of cases in the study, these patients cannot properly metabolize metals. Most of these people say that SSRIs do not have much of an effect—positive or negative—on them, but they report benefits from normalizing their copper levels through nutrient therapy. Most of these patients are women who are also estrogen intolerant.

"For them, it's not a serotonin issue, but extreme blood and brain levels of copper that result in dopamine deficiency and norepinephrine overload," Walsh explained. "This may be the primary cause of postpartum depression."

**Low-Folate Depression**
These patients account for 20 percent of the cases studied, and many of them say that SSRIs worsened their symptoms, while folic acid and vitamin B12 supplements helped. Benzodiazepine medications may also help people with low-folate depression.

Walsh said that a study of 50 school shootings over the past five decades showed that most shooters probably had this type of depression, as SSRIs can cause suicidal or homicidal ideation in these patients.

**Toxic Depression**
This type of depression is caused by toxic-metal overload—usually lead poisoning. Over the years, this type accounted for 5 percent of depressed patients, but removing lead from gasoline and paint has lowered the frequency of these cases.

"We are not the first to suggest that there may be other causes of depression, but we might be the first to identify the other forms of depression, and the first to suggest blood testing to guide the treatment approach," Walsh said.

**A New Way to Diagnose Depression?**
A urine test can detect pyrrole depression, while blood testing can identify the other biotypes.

Walsh said a physician-training program is in place to expand the testing throughout the world. Last month, 66 doctors from...
Australia were trained in the approach, and training for U.S. physicians will take place in October. Walsh's goal is to educate 1,000 doctors on this issue in five years.

“Psychiatrists appear to be the most enthusiastic participants,” he said.

David Brendel, M.D., Ph.D., a Boston-area psychiatrist, said it would be a “significant advance” to diagnose treatable forms of depression with objective medical tests.

“But I don't see adequate evidence that these (or other) researchers are anywhere near accomplishing this,” he said. Brendel added that depression likely has many causes and complex neurophysiological underpinnings. He said the medical community is still "entirely unable" to diagnose it using medical tests, though he said researchers may be closer to having tests, such as gene assays, that can identify the most effective medical treatment for a specific patient.

Mona Shattell, Ph.D., a nurse and professor at DePaul University specializing in mental health, said that being able to diagnose depression with a blood test could potentially increase the number of people diagnosed—and lead to more people being treated for the condition.

"It would also be helpful because depression, and other mental illnesses, are still stigmatizing," she said. "If depression could be detected via a blood test, it would clearly be in the realm of 'medical illness' and therefore a 'real' problem that is not due to individual weakness or other equally stigmatizing reasons."

URL
http://www.healthline.com/health-news/researcher-identifies-five-types-of-depression-050814

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