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BRAIN IMAGING CAN PREDICT HOW WELL PSYCHOTHERAPY MAY WORK FOR DEPRESSION

http://www.sciencedaily.com/releases/2015/02/150204111954.htm

A group of researchers at the University Of North Carolina School Of Medicine believe that brain scans could ultimately be used as a diagnostic tool to help patients receive the best treatment as quickly as possible. Their study, published in *Neuropsychopharmacology*, shows that brain scans can help predict which patients with depression are most likely to benefit from psychotherapy. Using resting-state functional brain connectivity MRI, the researchers were able to identify differences in brain connectivity that predict therapeutic responses to psychotherapy.

In the study, 23 patients with major depressive disorder were recruited who were not yet being treated. The patients underwent a resting-state functional connectivity MRI brain scan. Using this technique, researchers could identify activation in brain regions that might be linked to certain behaviors or responses to therapy. After the patients were scanned, they met with counselors for an average of 12 week behavioral activation therapy. Two connectivity patterns were found that stood out among patients who benefited most from psychotherapy.

The researchers plan to extend their imaging studies to explore responsiveness to other forms of therapy, medication, and brain stimulation. The researchers hope that if clinicians can identify the best treatment immediately, then clinicians and patients could avoid months of trial and error, thus dramatically reducing the devastating effects of depression for patients and their families. It is estimated that 40 percent of people are not helped by the first treatment, whether it is through medication, psychotherapy, or brain stimulation. As a result, it can take patients multiple attempts with different treatments before symptoms are alleviated.

BRAIN MARKER MAY PREDICT FUTURE DEVELOPMENT OF DEPRESSION AND ANXIETY

http://www.sciencedaily.com/releases/2015/02/150204125756.htm

According to a study from researchers at Duke University, monitoring activity in the amygdala can help determine who will become depressed or anxious in response to stressful life events. Additionally, the research could lead to new strategies to treat depression and anxiety and prevent them from occurring. The researchers hope that this discovery of a brain marker can potentially guide people to seek treatment earlier on before the disorders become impairing.

For the study, the team at Duke scanned the brains of healthy college students as they looked at angry or fearful faces, which signal danger in the environment. These threatening pictures normally trigger the amygdala, which detects and responds to danger, and the scientists measured the intensity of this activation using functional magnetic resonance imaging. They found that those who had the more reactive amygdalas at the study's start also had more severe symptoms of anxiety or depression in response to stressful events after the initial scanning. Conversely, they also found that participants who had an overzealous amygdala but had not experienced recent stress did not show any elevations in symptoms.

The team will continue to follow their study participants in order to determine just how far in the future knowing something about an individual's brain helps to understand their risk. The group is also exploring other measures, such as a person's genes, to predict the differences in amygdala activity, and in turn, the risk for anxiety and depression.