

Bradley Hospital Study Finds Difference in Bipolar Disorder in Children, Adults

Meta-analysis suggests children may benefit from targeted treatments specific to pediatric brain activity

PROVIDENCE – A new study from Bradley Hospital has found that bipolar children have greater activation in the right amygdala – a brain region very important for emotional reaction – than bipolar adults when viewing emotional faces. The study, now published online in *JAMA Psychiatry*, suggests that bipolar children might benefit from treatments that target emotional face identification, such as computer based “brain games” or group and individual therapy.

This study is the first ever meta-analysis to directly compare brain changes in bipolar children to bipolar adults, using data from 100 functional MRI (fMRI) brain imaging studies with a pool of thousands of participants. **EZRA WEGBREIT, PHD**, a postdoctoral research fellow at Bradley Hospital, led the study along with senior author **DANIEL DICKSTEIN, MD**, director of the PediMIND Program at Bradley Hospital.

“Bipolar disorder is among the most debilitating psychiatric illnesses affecting adults worldwide, with an estimated prevalence of one to four percent of the adult population, but more than 40 percent of adults report their bipolar disorder started in childhood rather than adulthood,” said Wegbreit. “Despite this, very few studies have examined whether brain or behavioral changes exist that are specific to children with bipolar disorder versus adults with bipolar disorder.”

Analysis of emotional face recognition fMRI studies showed significantly greater amygdala activity among

bipolar youths than bipolar adults. The team also analyzed studies using emotional stimuli, which again showed significantly greater levels of brain activation in bipolar children, this time in the inferior frontal gyrus and precuneus areas of the brain. In contrast, analyses of fMRI studies using non-emotional cognitive tasks showed a significant lack of brain activation in the anterior cingulate cortex of bipolar children.

“Despite our best current treatments, bipolar disorder exacts a considerable toll on youths, including problems with friends, parents and at school, and high rates of psychiatric hospitalization and suicide attempts,” said Dr. Dickstein. “More research into targeted treatments is needed now that we know children’s brains are impacted in specific, identifiable ways by bipolar disorder.”

Dr. Dickstein added that Bradley Hospital’s PediMIND Program is currently conducting several research projects on pediatric bipolar disorder, including potential brain-based treatment. “Understanding more about the brains of children and adults with mental illness is very important because, ultimately, all mental illnesses are reflected in changes in brain activity,” said Dickstein. “Locating the underlying brain change in bipolar youths could lead us to new, brain-based ways to improve how we diagnose and treat this disorder.” ❖

Engaging Patients Proven to Lower Readmissions, Helping Hospitals Avoid Penalties

PROVIDENCE – When patients are discharged from the hospital without fully understanding what to do next, they can land back in the emergency department or hospital within days or weeks. Not only can this be stressful and contribute to poor outcomes, but it also adds to the rising health care costs that affect all Rhode Island residents. Researchers at Healthcentric Advisors found that an intervention to engage patients in their care successfully lowered utilization and costs for a full six months after hospital discharge.

From 2009 through 2011, Healthcentric Advisors worked with six Rhode Island hospitals to implement Dr. Eric Coleman’s Care Transitions Intervention (CTI), a patient-centered coaching model. By pairing hospitalized patients

with a health coach for the critical 30-day period following hospital discharge, the intervention helped patients to better manage their care. The coach’s role included helping patients make and keep doctors’ appointments, use a personal health record to track information and questions, and know when to ask their doctor for help.

Compared to those who were eligible but didn’t participate, the group that received the CTI intervention:

- Had significantly lower health care utilization in the six months after discharge
- Incurred lower mean total health care costs (\$14,729 vs. \$18,779)
- Avoided \$3,752 in healthcare costs per patient

“As a doctor, I know how difficult hospital discharge can be for patients and families, especially if something goes wrong,” said **DR. REBEKAH GARDNER**, Senior Medical Scientist at Healthcentric Advisors and lead author of the paper. “When patients and families don’t have the right information or skills to navigate the health care system, they are confused and anxious. Poor discharges can result in people returning to the hospital when they could have stayed at home.”

This study demonstrates that evidence-based interventions, such as the CTI, can have a lasting and powerful impact on the health care system by simply providing patients with the tools necessary to better understand and manage their needs. ❖