

Faulty body clock may make kids bipolar

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Malfunctioning circadian clock genes may be responsible for bipolar disorder in children. Researchers writing in the open access journal *BMC Psychiatry* found four versions of the regulatory gene RORB that were associated with pediatric bipolar disorder.

Alexander Niculescu from Indiana University School of Medicine, Indianapolis, US, worked with a team of researchers at Harvard, UC San Diego, Massachusetts General Hospital and SUNY Upstate Medical University to study the RORA and RORB genes of 152 children with the condition and 140 control children. They found four alterations to the RORB gene that were positively associated with being bipolar. Niculescu said, "Our findings suggest that clock genes in general and RORB in particular may be important candidates for further investigation in the search for the molecular basis of [bipolar disorder](#)".

RORB is mainly expressed in the eye, pineal gland and brain. Its expression is known to change as a function of circadian rhythm in some tissues, and mice without the gene exhibit circadian rhythm abnormalities. According to Niculescu, "Bipolar disorder is often characterized by circadian rhythm abnormalities, and this is particularly true among pediatric bipolar patients. Decreased sleep has even been noted as one of the earliest symptoms discriminating children with bipolar disorder from those with [attention deficit hyperactivity disorder](#) (ADHD). It will be necessary to verify our association results in other independent samples, and to continue to study the relationship between RORB, other [clock genes](#), and bipolar disorder".

Pediatric bipolar disorder is a controversial diagnosis characterized by alternating bouts of depression and mania in [children](#), although it does not affect all young people in the same way and the duration and severity of the disorder can vary enormously.

More information: Evidence for Genetic Association of RORB with Bipolar Disorder, Casey L McGrath, Stephen J Glatt, Pamela Sklar, Helen Le-Niculescu, Ronald Kuczenski, Alysa E Doyle, Joseph Biederman, Eric Mick, Stephen V Faraone, Alexander B Niculescu and Ming T Tsuang, *BMC Psychiatry* (in press), www.biomedcentral.com/bmcpsychiatry/

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