Children with Attention Deficit/Hyperactivity Disorder Have a Greater Likelihood of Comorbid Depression

Kirsten Sinagra & Patricia M. Kelshaw

Department of Kinesiology, Brain Research & Assessment Initiative of New Hampshire (BRAIN) Laboratory, University of New Hampshire, USA

**Background:** Attention-deficit/hyperactivity disorder (ADHD) is often a childhood-onset disorder that frequently co-exists with other disorders such as anxiety and depression. However, there is a gap in the research regarding rates of ADHD and co-existing mental health conditions middle school age children.

**Purpose:** Describe the proportions of children with a history of ADHD, with co-existing depression, anxiety, or other psychiatric disorder.

**Methods:** 2,096 middle school student-athletes from Virginia [ADHD: n=144 (6.9%); No-ADHD n=1,952 (93.1%); girls: n=847 (40.4%); boys: n=1,249 (59.6%)] completed pre-participation health questionnaires designed to document comorbidities. Students were asked to self-report any diagnosis of ADHD as well as depression, anxiety, or other psychiatric disorder. Proportions of children with ADHD who also self-reported a history of depression, anxiety, or other psychiatric disorder were compared to children without ADHD, and analyzed using a chi-square test. To characterize the magnitude of group differences, odds ratios (OR) with corresponding 95% confidence intervals (95% CI) were calculated.

**Results:** Children and adolescents with ADHD were more likely to also endorse having a psychiatric disorder than children without ADHD \( \chi^2(1)=50.31, P<0.05; \text{OR}=6.07; 95\% \text{ CI:3.46-10.63} \). Girls with ADHD were significantly more likely to also endorse a psychiatric disorder than girls without ADHD \( \chi^2(1)=17.23, P<0.05; \text{OR }=5.47; 95\% \text{ CI:2.24-13.37} \); and boys with ADHD were more likely to endorse psychiatric disorder than boys without ADHD \( \chi^2(1)=45.84, P<0.05; \text{OR }=9.58; 95\% \text{ CI:4.36-21.07} \).

**Conclusions:** Children with ADHD were 6 times more likely to report having a coexisting psychiatric disorder (including depression and anxiety) than children without ADHD. Girls were over 5 times more likely, and boys were nearly 10 times more likely to report having a coexisting psychiatric disorder than girls and boys without ADHD. Additional research is needed to address the intersection of ADHD and anxiety/depression as co-existing health conditions.