Increased Risk of Smoking in Female Adolescents Who Had Childhood ADHD.

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Abstract

OBJECTIVE:
This study examined the effects of childhood attention deficit hyperactivity disorder (ADHD) symptoms, both inattention and hyperactivity-impulsivity, on the development of smoking in male and female adolescents.

METHOD:
Twin difference methods were used to control for shared genetic and environmental confounders in three population-based, same-sex twin samples (N=3,762; 64% monozygotic). One cohort oversampled female adolescents with ADHD beginning in childhood. Regressions of childhood inattentive and hyperactive-impulsive symptoms were conducted to predict smoking outcomes by age 17. ADHD effects were divided into those shared between twins in the pair and those nonshared, or different within pairs.

RESULTS:
Adolescents who had more severe ADHD symptoms as children were more likely to initiate smoking and to start smoking younger. The association of ADHD symptoms with daily smoking, number of cigarettes per day, and nicotine dependence was greater in females than in males. Monozygotic female twins with greater attentional problems than their co-twins had greater nicotine involvement, consistent with possible causal influence. These effects remained when co-occurring externalizing behaviors and stimulant medication were considered. Hyperactivity-impulsivity, while also more strongly related to smoking for female adolescents, appeared primarily noncausal.

CONCLUSIONS:
Smoking initiation and escalation are affected differentially by ADHD subtype and gender. The association of inattention with smoking in female adolescents may be causal, whereas hyperactivity-impulsivity appears to act indirectly, through shared propensities for both ADHD and smoking.