Genetic and environmental aspects of the association between attention-deficit hyperactivity disorder symptoms and binge-eating behavior in adults: a twin study.


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Abstract

BACKGROUND: Prior research demonstrated that attention-deficit hyperactivity disorder (ADHD) is associated with binge-eating behavior, binge-eating disorder (BED), and bulimia nervosa (BN). The aim of this study was to investigate these associations in an adult twin population and to determine the extent to which ADHD symptoms and binge-eating behavior share genetic and environmental factors.

METHODS: We used self-reports of current ADHD symptoms and lifetime binge-eating behavior and associated characteristics from a sample of over 18,000 adult twins aged 20-46 years, from the population-based Swedish Twin Registry. Mixed-effects logistic regression was used to examine the association between ADHD and lifetime binge-eating behavior, BED, and BN. Structural equation modeling was used in 13,773 female twins to determine the relative contribution of genetic and environmental factors to the association between ADHD symptoms and binge-eating behavior in female adult twins.

RESULTS: ADHD symptoms were significantly associated with lifetime binge-eating behavior, BED, and BN. The heritability estimate for current ADHD symptoms was 0.42 [95% confidence interval (CI) 0.41-0.44], and for lifetime binge-eating behavior 0.65 (95% CI 0.54-0.74). The genetic correlation was estimated as 0.35 (95% CI 0.25-0.46) and the covariance between ADHD and binge-eating behavior was primarily explained by genetic factors (91%). Non-shared environmental factors explained the remaining part of the covariance.

CONCLUSIONS: The association between adult ADHD symptoms and binge-eating behavior in females is largely explained by shared genetic risk factors.