ADHD Medication, Dietary Patterns, Physical Activity, and BMI in Children: A Longitudinal Analysis of the ECLS-K Study.

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Abstract

OBJECTIVE:
This study examined relationships between attention-deficit/hyperactivity disorder (ADHD), stimulant use, and BMI change in a nationally representative cohort of children as well as differences in diet and physical activity that may mediate associations between stimulant use and BMI change.

METHODS:
By using the Early Childhood Longitudinal Study-Kindergarten Cohort 1998-1999 (N = 8,250), we modeled BMI and z score change by ADHD and stimulant start time, examined the odds of unhealthy diet and physical activity predicted by ADHD and stimulant use, and performed mediation analysis assessing indirect effects of health behaviors.

RESULTS:
Early stimulant use predicted short-term BMI reductions, but any stimulant use predicted increased BMI growth between fifth grade (mean age = 11.2 years) and eighth grade (mean age = 14.3 years). Children with ADHD had higher odds of poor diet regardless of medication. Health behaviors were not associated with BMI change after controlling for medication use.

CONCLUSIONS:
Stimulant use predicted higher BMI trajectory between fifth and eighth grade but did not affect dietary or physical activity patterns. Future research should explore potential mechanisms by which early and long-term stimulant use may affect metabolism, while clinicians should initiate nutrition counseling with families of children with ADHD, regardless of medication prescription, at or shortly after diagnosis.