

CLINICAL GUIDELINES FOR FAMILY PHYSICIANS

Screening for Obesity in Children And Adolescents

BY NEIL S. SKOLNIK, M.D., AND MACKENZIE MADY, D.O.

The incidence of childhood obesity is on the rise, with recent data from the Centers for Disease Control and Prevention suggesting that 12%-18% of children aged 2-19 years are considered obese. This represents a three- to sixfold increase in the prevalence of pediatric obesity since the 1970s.

Obesity has clear complications and comorbidities, including increased risk of type 2 diabetes, asthma, and nonalcoholic fatty liver disease, as well as an increased risk of adverse psychological issues such as depression. Characteristics that increase the risk for pediatric obesity include male gender, advancing age (adolescents are at high risk), and minority status.

In 2005, the U.S. Preventive Services Task Force released a recommendation statement promoting the use of body mass index (BMI) as a suitable screening method for obesity in the pediatric population. Recently, the USPSTF released an updated statement on pediatric obesity with a stronger focus on treatment and outcomes.

Screening

Screening for overweight and obese children should be performed utilizing BMI, which is calculated as weight in kilograms divided by height in meters squared. This is a grade "B" recommendation, meaning that there is a moderate degree of certainty that the net benefit is moderate. The BMI is then plotted on growth charts against gender- and age-specific norms. These growth charts were published by the CDC in 2000 and were formulated with data from multiple national health examination surveys

spanning 3 decades.

In the pediatric population, "overweight" is defined as BMI in the 85th-94th percentiles; "obese" is defined as a BMI of at least the 95th percentile, as plotted for age and sex, based on data collected from 1963 to 1995.

Although the USPSTF found moderate evidence to utilize BMI an acceptable screening method for obesity, it did not find adequate evidence to recommend screening timing and intervals other than routine measurements performed at regularly scheduled health maintenance visits. The USPSTF also found sufficient evidence to recommend initiation of screening for obesity beginning at 6 years of age.

Behavioral Treatment

On review of thirteen trials including more than 1,200 children and adolescents aged 4-18 years, the USPSTF found moderate evidence that identification of an obese pediatric patient via BMI screening with subsequent referral to a moderate- to high-intensity intervention at a specialty health care center resulted in modest weight loss over 12 months; these programs were defined as providing at least 25 hours of contact between the child and/or family and the health care center over a 6-month period. Very low or low-intensity programs (defined as less than 25 hours of patient to health professional interaction over a 6-month period) were not found to be statistically significant in terms of weight loss.

Interventions were deemed comprehensive if they included the following characteristics: weight loss/diet coun-

seling, physical activity counseling, behavior management instruction, and sustained support regarding new diet and exercise changes. Behavioral management often included cognitive behavioral therapy in reference to self-monitoring, impulse control, and triggers for overeating/poor food choices.

Examples of moderate weight loss in a 16-year-old were, on average, 19 pounds for a female and 22-23 pounds for a male.

There was limited evidence that moderate- to high-intensity programs yielded improvements in insulin resistance in pediatric patients. However, there was not a consistent reduction in other cardiovascular risk factors, including blood pressure or cholesterol levels.

Pharmacologic Treatment

Two medications are FDA-approved for weight reduction in the adolescent population. Orlistat is a pancreatic lipase inhibitor and is approved for children 12 years and older; sibutramine is a centrally acting appetite suppressant and serotonin reuptake inhibitor approved for adolescents 16 years and older. Small but significant improvements in BMI were found when these medications were used in conjunction with behavioral interventions.

While the addition of either of the two medications did not appear to affect growth or mental health, gastrointestinal side effects—such as abdominal cramping, flatus, or oily spotting—were common and found in about 30% of the patient population, particularly with sibutramine. Sibutramine also has been associated with an increase in blood pressure and heart rate, with recent questionable links to increased cardiovascular events in the adult population. Cardiovascular effects in the pediatric population are unknown.

Data also are lacking regarding weight maintenance in the pediatric population after discontinuation of these medications.

Limitations

The USPSTF statement did not address children younger than 6 years of age. In addition, the effects of intensive behavioral interventions on overweight children—but not obese children—have not been carefully studied. Further limitations include a need for more information on appropriate obesity interventions for low-income children.

The USPSTF concluded that low-intensity interventions, which could be applied in the primary care outpatient setting, were not found to have a significant effect on BMI in the obese pediatric patient. More studies and subsequent recommendations on the role of the primary care physician in the treatment of the overweight and/or obese pediatric patient are needed.

Bottom Line

Recommendations are clear that primary care physicians at routine checkups should screen all pediatric patients 6 years and older for obesity using BMI. Once identified, obese pediatric patients should then offered referral to a moderate- to high-intensity weight-management program. ■

Reference

► U.S. Preventive Services Task Force. Screening for obesity in children and adolescents. *Pediatrics* 2010;125:361-7.



DR. SKOLNIK is an associate director of the Family Medicine Residency Program at Abington (Pa.) Memorial Hospital. DR. MADY is an attending physician with the Geisinger Health System in Orwigsburg, Pa.

ADHD in Young Adults Linked to Increased Obesity Risk

BY MITCHEL L. ZOLER

FROM THE 11TH INTERNATIONAL CONGRESS ON OBESITY

STOCKHOLM — Young adults with hyperactive-impulsive symptoms of attention-deficit/hyperactivity disorder had a significantly increased risk for obesity in a U.S. national sample of nearly 12,000 people.

"This is the first population-based study to examine the association between ADHD symptoms as dimensional predictors of adult BMI [body mass index], changes in BMI, and risk of adult obesity and hypertension," Bernard F. Fuemmeler, Ph.D., wrote in a poster at the meeting. "Our findings show a dose-response increase in risk of obesity associated with increasing ADHD symptoms, especially hyperactive-impulsive symptoms."

Based on these findings, "it may be clinically relevant to screen patients with ADHD who are at risk for obesity to develop appropriate treatment strategies," suggested Dr. Fuemmeler, a clinical psychologist at Duke University in Durham, N.C. "The effectiveness of obesity treatment may be diminished, and relapse may be greater among those with more ADHD symptoms," he added.

The biologic plausibility of a link between ADHD symptoms and obesity is based on results from positron emission tomography studies showing a reduced availability of dopamine receptors in people with ADHD and in people who are obese. Better understanding of the link may improve understanding of the etiology of obesity and may help identify better treatments.

Dr. Fuemmeler and his coinvestigators used data from the fourth wave of the National Longitudinal Study of Adolescent Health, a recurring national survey begun in 1994 sponsored by the National Institute of Child Health and Human Development and several other branches of the National Institutes of Health.

At onset, the representative sample of adolescents in the survey had an average age of 16. The fourth round of longitudinal data collection occurred in 2007 and 2008 at an average age of 29, and included 11,666 people, 49% women; among the sample, 66% were white, 15% African American, 12% Hispanic, and 7% other.

Average BMI for the entire sample was 29 kg/m². In all, 37% of participants were obese (BMI of 30 kg/m² or greater); 33% were normal weight (BMI less than 25 kg/m²); and 30% were overweight (BMI 25-29 kg/m²).

Hypertension prevalence in the entire group was 13%.

In a multivariate analysis that controlled for age, sex, race, ethnicity, education, depression, alcohol use, smoking, and physical activity, survey participants with hyperactive-impulsive symptoms of ADHD had a statistically significant 63% increased risk of being obese compared with survey participants without these symptoms. People with ADHD symptoms of inattention had a smaller increased obesity risk, 23%. The data showed the link between ADHD symptoms and hypertension was weaker than the link between ADHD and obesity.

Although even people with one hyperactive-impulsive symptom had a modestly increased obesity risk, the risk was highest among people with three to eight hyperactive-impulsive symptoms, which linked with a 50% increased risk in the multivariate analysis. In contrast, people with inattentive symptoms showed an increased obesity risk in only those with three to nine symptoms, a 21% increased risk.

Analysis of longitudinal data, collected at four times during the course of the survey to date showed hyperactive-impulsive symptoms linked with increasing BMI over the course of adolescence and into adulthood. ■