

Childhood Obesity and the Primary Care Provider

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Overweight adolescents have a 70 percent chance of becoming overweight or obese adults. This increases to 80 percent if one or both parents are overweight or obese.

There is an increasing prevalence of overweight and obese children and adolescents in the United States, with approximately 9 million people classified as overweight. The rate of obesity has more than doubled during the last three decades. According to data from the most recent National Health and Nutrition Examination Survey in 2002, 15 percent of children between the ages of six and 11 and 16 percent of 12 to 19 year olds are overweight. Even our nation's preschoolers are affected. The prevalence of overweight children between the ages of two and five increased by more than 40 percent since 1994.

These staggering statistics are important not only because of the medical and psychosocial complications associated with obesity, but also because childhood obesity tracks to adulthood. Overweight adolescents have a 70 percent chance of becoming overweight or obese adults. This increases to 80 percent if one or both parents are overweight or obese.

Assessment and Evaluation

Body mass index (BMI) is a useful measurement for assessing body adiposity. BMI correlates with markers of secondary complications of obesity, including blood pressure and blood lipids, and with mortality rates. BMI is calculated by dividing body weight (in kilograms) by height (in meters) squared. The Centers for Disease Control produced BMI percentile graphs to plot a child's BMI measure and allow longitudinal follow-up of BMI percentiles. A BMI of greater than or equal to the 95th percentile defines a child as obese and a BMI between the 85th and 94th percentile defines overweight.

Pediatricians can begin measuring BMI at age two. Prevention is the most effective strategy to combat obesity, so it is important to start a dialogue at an early age to promote healthy diets, incorporate physical activity and limit television time. An elevated BMI for age and gender, or accelerating weight and/or BMI profile, alerts healthcare providers to a potential concern.

It is often uncomfortable to discuss childhood weight management without making the parent feel guilty or embarrassing the child. Showing the BMI chart and illustrating to the parent the difference between the child's BMI and expected normal BMI helps the parent appreciate the concern.

In addition to a complete medical evaluation of the patient, primary care providers can assess dietary intake and eating habits, physical activity and sedentary behavior (such as number of hours spent watching television or playing video games). This can be done by either facilitating an activity and dietary recall (24-hour or one-week) or by asking the child and/or parent to keep a daily food and activity diary for a week or two that can be reviewed at a follow-up appointment. It is important to specifically inquire about snack foods such as candy and sugared beverages, as these foods may not be mentioned during routine dietary recall or included in dietary diaries.

A family must be ready to make lifestyle changes to help a child, and it is often helpful to assess the family's willingness to make dietary and activity changes. A lack of readiness can lead to failure, which frustrates family members and perhaps prevents future weight-control efforts. If the family is in the pre-contemplative or contemplative phase, then the primary care

provider's time is best spent motivating the family using techniques such as motivational interviewing.

Other evaluation methods include inquiries about the usual sleep habits of the child. For teenagers, a depression screening is often helpful. Laboratory assessments include fasting insulin and glucose, lipid panel and liver function tests. If there is discordance of weight and height, then a thyroid function test is recommended. If medical assessment is inconclusive, other tests to find secondary causes of obesity or specific obesity complications may be necessary. However, less than 5 percent of childhood obesity cases are due to secondary causes.

Treatment

The three major therapeutic modalities include lifestyle-based treatments, medical and surgical interventions. Lifestyle-based treatments improve dietary practices, increase physical activity, reduce sedentary conduct, and promote behavior changes to achieve a healthy lifestyle. It is important to remember that obesity is a chronic disease that requires frequent visits, continuous monitoring and reinforcement.

Treatment can be done in individual (child-parent), groups or a combination of individual and group therapy sessions. The goal of therapy is to increase healthy behaviors by making a few small and permanent changes at a time. This initial aim focuses on weight maintenance and changes in behavior, which leads to a decline in weight and BMI. Dietary and activity changes in the home environment should apply to the entire family so as not to single out the overweight child.

Dietary interventions must be individualized to meet the child's needs. The goal is to reduce calories and fat in the diet, while helping families understand proper portion sizes.

Regular *physical activity* is an important component of any weight loss program. Physical activity alone has no significant effects on weight in the absence of dietary intervention. Physicians should encourage activities of daily living (such as walking to school or to the store or taking the stairs instead of the elevators), as these are more likely to be sustained. Children should be active for at least 30 to 60 minutes a day.

Referring to Children's Obesity Clinic

Children and adolescents between the ages of 2 and 18 may be referred to Children's Obesity Clinic (I.D.E.A.L. Clinic) at Children's Hospital Health Center. The clinic developed referral guidelines to assist pediatricians.

The Obesity Clinic sees children that meet the following guidelines:

- BMI > 95th percentile who have failed to lose weight after dietary and activity counseling by the primary care provider and or nutritionist/health educator
- BMI > 95th percentile with dyslipidemia, elevated fasting insulin, fasting glucose, or hypertension
- BMI > 95th percentile with elevated liver function tests
- BMI > 95th percentile with orthopaedic complications such as Slipped Capital Femoral Epiphysis or Blount's disease

Nazrat Mirza, MD, specializes in research and management of children and their families who are dealing with obesity. She sees patients at Children's Hospital Health Center and has an ongoing obesity intervention program for Hispanic families at the Adams Morgan Health Center.

CRI HIGHLIGHTS

On May 17, Children's Research Institute (CRI) hosted the 7th Annual Children's National Medical Center Research Day, chaired by John van den Anker, MD, PhD. The event displayed more than 150 projects from all areas of research and programmatic activities being performed by Children's faculty, fellows, trainees, and staff. Clinical research provided 72 posters, basic and translational research provided 55 posters, and community-based research provided 23 posters.

There was significant opportunity for researchers and clinicians to exchange information about their respective interests to bridge relationships between disciplines and career levels.

For more information about CRI visit www.dccchildrens.com/cnmcresearch.