Recognizing and treating child overweight and obesity

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ABSTRACT

Primary care providers can help prevent and address child overweight and obesity, conditions that can affect children's present and future health as well as their psychologic, emotional, and social well-being. This article describes approaches to preventing, identifying, and addressing overweight and obesity using empathetic, practical, family-focused recommendations and actions.

Keywords: childhood, overweight, obesity, pediatrics, primary care, prevention

Over the past 20 years, the rates of child overweight and obesity have risen, not only in the United States but in most developed nations. In the United States today, nearly 17% of children ages 2 to 19 years are obese and 32% are either overweight or obese, triple the rates of a generation ago.[1] Minority children, including Black, Latino, and Native Americans, are disproportionately affected by these conditions.[1] Physician assistants (PAs) often are on the front line of addressing childhood overweight and obesity through prevention and treatment interventions in primary care.

Child overweight and obesity can affect young people not only in the short term but over their lifespan. Carrying excess weight during childhood raises the risk of adverse conditions including cardiovascular disease, a number of types of cancer, and type 2 diabetes.[2] In addition, children who are overweight or obese are more likely to experience low self-esteem, depression, and bullying, all of which affect not only their physical and psychological health, but academic success.[3]

DEFINING CHILDHOOD OVERWEIGHT AND OBESITY

The World Health Organization (WHO) defines overweight and obesity as excessive fat accumulation that presents a risk to health.[4] Overweight and obesity are defined as excess adiposity and are diagnosed using age- and sex-specific body mass index (BMI), a widely accepted proxy for body fat in children and adults.[5] The CDC provides sex-specific charts to determine stature-for-age and weight-for-age, and healthcare providers can calculate BMI and plot it on the BMI chart (see **Table 1** for resources).[5] A healthful weight is considered to be between the 5th and 84th percentiles. Overweight is considered to be at or above the 85th percentile, and obesity at or above the 95th percentile. Children with BMIs at or above the 120th percentile are classified as extremely obese.[5]

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PREVENTION

As stated by the American Academy of Pediatrics (AAP) and other child health authorities, prevention is the optimal approach to overweight and obesity.[6] Beginning with the prenatal period, clinicians should emphasize the importance of breastfeeding, which helps children learn to rely on their internal senses of hunger and fullness. The AAP recommends exclusive breastfeeding or infant formula for 4 to 6 months before introducing solid foods. Cow's milk should only be introduced at age 1 year, with whole milk recommended until age 2 years and lower-fat milks thereafter.[7] A child's diet should then grow to include a wide variety of fruits, vegetables, whole grains, lean proteins, and dairy. Juice should not be introduced until at least ages 6 to 9 months and should be limited to 4 to 6 oz a day.[7] Parents also should avoid providing sugary

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Key points

- Because eating patterns are established early in life, parents can help to shape their children's food choices and weight trajectory with healthcare providers' attention and guidance.
- Avoid assuming that children and their parents perceive overweight and obesity the same way as healthcare providers, or realize that healthful weight guidelines exist for their benefit.
- Make healthful weight a family affair, using sensitive language to create an environment of understanding and trust around this often emotionally charged topic.
- Helping a child to attain and maintain a healthful BMI is an ongoing process. Slow and steady steps reap safe and long-term benefits.

beverages, high-fat/high-sugar snacks, fast foods, and processed foods.[8]

Nutrition research has shown that adult role modeling is the single largest influence on children's food preferences and intake.[9] Thus, making parents aware that they are their children's most important nutrition educators can make a difference in how parents view their own food and nutrition behaviors. When working with lower-income populations, clinicians must be aware that food insecurity (a lack of enough nutritious food to lead a healthful life) can limit the quantity and quality of food that parents can provide. PAs should discuss with parents the barriers they may face to providing healthful food as well as the difficulties of keeping children on track with healthful eating, given the prevalence of widely available and affordable junk foods.[10] Having on hand information about food assistance programs such as SNAP (Supplemental Nutrition Assistance Program); Women, Infant and Children (WIC); and reduced-price and free meals through the National School Breakfast and Lunch and Summer Meal programs can help families access these valuable resources. Many eligible families are not aware that they can qualify for these programs.[11]

IDENTIFICATION AND TREATMENT

In its 2012 report, "Accelerating Progress in Obesity Prevention," the Institute of Medicine called on healthcare providers to play key roles in identifying, preventing, and treating childhood overweight and obesity.[12] The US Preventive Services Task Force (USPSTF) recommends that all children age 6 years and older receive screening for overweight and obesity.[13]

For busy clinicians, addressing weight during a short visit can seem tricky. Clinicians commonly report lacking knowledge and skills to address child weight problems.[14] Some perceive low effectiveness at counseling children on weight.[15] A 2017 study reported that PA students were consistently unable to accurately identify children's weight statuses, even when provided with height and weight data.[16] However, for PAs working in the primary care setting, preventive visits may be the only occasions on which a child may receive nutrition and weight guidance. Thus school, sports, and camp physicals, and even sick visits are opportunities to discuss weight as a part of anticipatory guidance to avoid longer-term consequences of overweight or obesity.

After plotting a patient's BMI-for-age, clinicians should remember that a single point on the growth chart that suggests overweight is not sufficient for a definitive diagnosis. If clinicians have access to past height and weight data and a child has been plotting above the 85th percentile over time, they can more confidently diagnose overweight. This is where medicine becomes an art and clinical judgment becomes necessary. Children may have weight-to-height discordance if they put on weight and then grow into it. Others may be born heavier and taller and remain so throughout childhood.[17]

Clinicians also should consider laboratory values, if available, when framing a discussion with patients and parents or caregivers. Concerning laboratory values support the necessity of the weight discussion. Even for a patient at a healthy weight, screening for genetic dyslipidemia with a nonfasting lipid profile is recommended for all children between ages 9 and 11 years and again between ages 17 and 21 years.[18] For children in the overweight and obese categories, fasting glucose, fasting lipid profile, and alanine aminotransferase/aspartate aminotransferase also are advisable. No guidelines exist on when to begin laboratory testing for patients who are obese, but some clinicians begin screening as early as age 2 years if there are weight concerns.[18]

In short, a child presenting as overweight can benefit substantially from a discussion involving the family, the child, and the clinician, who are a team in helping a child to achieve a healthful weight. Clinicians should give straightforward but sensitively worded feedback about BMI to the child and parents or caregivers. This approach

TABLE 1. Selected online resources

BMI information for healthcare providers
- www.cdc.gov/healthyweight/assessing/bmi/index.html

The 5-2-1-0 eating pattern
- https://childhoodobesityfoundation.ca/families/simple-steps-families-can-take/#tab-id-4

Tips for parents
- www.cdc.gov/healthyweight/children/index.html
- www.eatright.org/health/weight-loss/overweight-and-obesity/why-is-my-child-overweight
- www.choosemyplate.gov/browse-by-audience/view-all-audiences/children/kids
- https://healthfinder.gov/HealthTopics/Category/parenting/nutrition-and-physical-activity/help-your-child-stay-at-a-healthy-weight.

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TABLE 2. Motivational interviewing techniques

Step 1: Prevention plus If a child is at risk of or overweight or obesity, start a short discussion, focusing on the eating and lifestyle habits of the whole family. **Motivational interviewing** • Interviewing technique that lets the family and patient reflect on their diet and physical activity • Gives clinicians insights on behaviors • Look for the "low-hanging fruit" such as regular fast-food consumption or dislike of fruits and vegetables **Goal setting** • Explain the 5-2-1-0 tool, under which children should get 5 servings of fruits and vegetables, 2 hours or fewer of screen time, 1 hour or more of physical activity, and 0 sugary beverages (soda, juice beverages that are not 100% fruit juice, sports drinks, and sweetened teas) each day **Follow-up** • Ask about progress at the next visit or via phone call • Achieving a behavior is the goal, not necessarily weight change (if health behaviors improve, weight will follow) • If no BMI status change in 3 to 6 months, proceed to the next level **Sample language** • PA to parent/child: What kind of foods do you tend to have at home? How often do you eat out and where? • PA to child: What foods do you like eating? What kinds of fruits and vegetables do you like? What do you like to do for fun at recess or at home? • PA to parent/child: What is one thing that you think you could change in order to eat more healthfully/exercise in the next week? On a scale from 1-10, how important is achieving this goal to you? On the same scale, how confident do you feel that you can achieve that goal? • PA to parent/child: Was it difficult to achieve your goal? What were some barriers? What could you do better in trying to reach this goal?	**Step 2: Structured weight management** • Moving to this stage is appropriate when the clinician sees little to no change in the child's BMI and/or in progress toward behavior goals conducive to a healthier BMI • Keep focusing on positive family health behaviors and weight maintenance (not necessarily loss) as a child grows • Follow up every 2 to 4 weeks • This can be an appropriate time to refer the family/child to an RDN, who will help families with more structured goals • Clinicians who deliver counseling can use ICD-10-CM diagnosis code Z68.54 and ICD-10-CM diagnosis code E66 to refer a patient to an RDN for overweight or obesity counseling **Sample language** • I know that it can really be challenging to make changes in what we eat. I would like to bring an RDN onto our team to help us achieve our eating/physical activity goals. **Step 3: Comprehensive multidisciplinary intervention** • Delivered at a pediatric weight management clinic with a multidisciplinary team • Focuses on structured behavioral modification, including food and physical activity monitoring • Still focuses on positive behavior change • Aims to slow the rate of weight gain • Continues with frequent follow-up • PA communicates with interdisciplinary team **Step 4: Tertiary care intervention** • Delivered at a pediatric weight management center by experts in child obesity • Generally recommended for children with BMI above the 99th percentile that have no achieved improvements in prior stages • Intensive diet and physical activity counseling • Considerations of medication use* or surgery** • Goals are still behavior changes, but also a decrease in BMI • PA communicates with interdisciplinary team

*A systematic review from the USPSTF found that orlistat, when combined with behavioral interventions, appears to be safe and can confer small benefits, but more research is needed to determine their long-term effectiveness for helping patients maintain weight loss.[13]

**In December 2019, the AAP released a report on metabolic and bariatric surgery for pediatric patients with severe obesity, stating that the Roux-en-Y gastric bypass and vertical sleeve gastrectomy have been shown to "result in sustained short-, mid- and long-term weight loss with the resolution of multiple obesity-related comorbid diseases." The authors assert that there is substantial evidence pointing to the safety and effectiveness of these procedures in children and adolescents.[24]

drives understanding and trust, particularly in patients and families who tend to be heavier. Some parents may misperceive their children's body size, making the weight discussion more difficult.[17] Thus, discussing a high BMI in terms of health implications rather than weight itself is beneficial. In addition, the Expert Committee formed by the American Medical Association (AMA), federal Health Resources and Service Administration (HRSA), and the CDC determined that *overweight* should be used in place of *obesity* when addressing patients and their parents or caregivers.[19,20]

To help gather information from patients and their caregivers, clinicians can use motivational interviewing, a counseling technique involving open-ended questions (**Table 2**). The motivational interviewing process also provides good opportunities for brief counseling on "low-hanging fruit" behaviors that can help prevent or reduce the severity of overweight or obesity. Motivational interviewing also is useful because when patients and parents or caregivers reflect on the family's food intake and identify small changes that they can make immediately, they can leave the office with a list of steps to take that can lead to weight improvements.[19]

The Expert Committee crafted up-to-date recommendations for identifying, assessing, treating, and preventing childhood overweight and obesity.[19] Given the paucity of studies on primary provider-level care for weight management in children, the committee formed recommendations based on scientific evidence, clinical expertise, the likelihood of benefit or harm of treatment, and the feasibility of specific strategies.[19] To assist clinicians in identifying and addressing weight concerns in children, the authors of this

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article combined the Expert Committee's "Fifteen-Minute Obesity Prevention Protocol" with steps created by the AAP's Institute for Healthy Childhood Weight to provide PAs with a set of actions to pediatric weight concerns.[19,21,22]

BENEFITS OF SCREENING

Primary care clinicians must be aware of their power to help children at risk of or already presenting with overweight or obesity by bringing excess weight to the attention of patients and parents or caregivers. Do not hesitate to refer patients to professionals such as registered dietitian nutritionists (RDNs) who can counsel patients on lifelong weight management.

The Expert Committee and the USPSTF cite evidence that moderate- to high-intensity intervention programs are the most effective at helping children to lower their BMIs while maintaining their weight as they grow.[13,19,23] Moderate- to high-intensity programs are defined as those offering more than 25 to 26 hours of contact time with the child and family over 6 to 12 months. Labeling or victimizing the child with overweight or obesity can be prevented with sensitive assessment, focus on health implications, and ongoing interprofessional support. The RDN is uniquely trained to collaborate with the primary care clinician to provide this level of care and monitoring. This implies that many patients benefit from sustained, longer-term guidance for successful weight management. Overweight and obesity are conditions that can influence physical and mental health in important ways over the lifespan. PAs are positioned to enter at the primary care level to address this rising trend and help ensure a healthful future for children.

PAs can also join RDNs and other healthcare professionals in advocating for increased funding for child nutrition programs, more hours of nutrition education in schools, and multilevel interventions that help children and families to eat healthfully and stay physically active.

CONCLUSION

A cooperative effort between healthcare providers, patients and families, communities, advertisers, and food companies is needed to truly turn the tide on childhood overweight and obesity. **JAAPA**

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