Childhood Overweight and Obesity

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KEYWORDS

• Childhood • Overweight • Obesity • Comorbidity • Prevention • Assessment • Treatment • Cultural

KEY POINTS

- Childhood overweight and obesity are increasing in prevalence and are a growing health concern.
- The diseases and their comorbidities have devastating consequences to children and adults as well as families, communities, and the nation. Comorbidities are cardiorespiratory, endocrinologic, gastrointestinal, orthopedic, and psychosocial.
- Health care providers are facing this crisis with limited medical, community, and federal resources and insufficient reimbursement.
- This article reviews recent trends in the assessment and treatment of this disease as well as trends in reimbursement, financial implications, and the need for further research and advocacy.

INTRODUCTION

According to the latest statistics from the Centers for Disease Control and Prevention, more than one-third (34.9% or 78.6 million) of US adults are obese, with an estimated annual medical cost of $147 billion in 2008. The prevalence of obesity in children increased 300% over approximately the past 40 years.[1] The National Health and Nutrition Examination Survey, 2009 to 2010, found 32% of children, 2 to 19 years old, to be overweight or obese, with 17% in the obese range. Children's risk varies significantly by race/ethnicity. In 2009 to 2010, 24% of non-Hispanic black, 21% of Hispanic, and greater than 20% of American Indian/Alaskan Native children and adolescents were obese compared with 14% of white children.[2] For children and adolescents aged 2 to 19 years, the prevalence of obesity has remained fairly stable at approximately 17% and affects approximately 12.7 million children and adolescents for the past decade; however, the prevalence of severe obesity in children continues to rise.[3]

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Childhood overweight and obesity and their comorbidities threaten to prevent a significant portion of US children and adolescents from reaching their full potential and contributing to society on personal and community levels. Comorbidities of pediatric overweight and obesity are cardiovascular, endocrinologic, orthopedic, gastrointestinal, neurologic, pulmonary, and psychosocial (**Table 1**).[4,7,12,13] Children of underrepresented ethnic minority groups and those living at or below the poverty level are at increased risk. Communities of lower socioeconomic levels are burdened with obstacles concerning physical activity.[14,15] Children of parents with lower education levels, who are more likely to live in low-income/high-crime neighborhoods, are at increased risk for overweight and obesity.[16] School districts in these communities are less likely to have adequate funding to maintain physical education programs. Also, gym and recess are less likely to be supported during efforts to improve academic outcomes in failing schools.

Parents in low-income neighborhoods with high crime rates may be reluctant to allow children to play outside of the home. Both parents may be required to work, or single parents may need to work long hours to make ends meet, limiting their ability to eat together with their children and supervise food choices. Families living in food deserts face limitations in access to healthy foods, relying heavily on small community grocery stores or bodegas, where healthy choices are few and prices are high. Fast food restaurants are more prevalent in these communities, with the price of unhealthy fast food meals much less than that of local fruits and vegetables. Also, parents living in poverty are more likely to choose calorie-rich foods high in fat and simple carbohydrates and low in nutritional value, which they may consider more filling and more likely to maintain their children's satiety until the next meal can be obtained.

Pediatricians and other health care providers to children are faced with the daunting task of addressing this epidemic. They must identify those children and adolescents who are, or are at risk for becoming, overweight or obese, in addition to preventing the chronic illness of obesity in all children and adolescents and identifying those at increased risk. Primary care providers must accomplish this in the face of growing demands for relative value units, shrinking ancillary services and other support systems (such as social workers and nutritionists), decreasing or absent insurance reimbursement for obesity-related office visits, and unreasonably short time slots for patients.

This article has been written in an effort to provide necessary information and tools to health providers in dealing with the health crises of childhood overweight and obesity in the face of prevailing obstacles and limitations in medical practice. The pathophysiology, current theories, and trends in treatment, such as motivational interviewing, research, politics and policy, and specific needs for advocacy, are reviewed.

OVERVIEW

Obesity and its major comorbidities have become a major global health challenge affecting children and adolescents of all ages. The hope of ending its affects is through early identification and management, which are facilitated by the recognition of risk factors.

In addition to the socioeconomic factors discussed previously, epidemiologic and animal studies suggest potential links between intrauterine and postnatal factors and childhood obesity. Among these are the following.[17–20]

Intrauterine

- Maternal diabetes mellitus (gestational or type 1)
- Maternal hypertension
- Maternal gestational weight gain