

Pediatric Obesity and Asthma Quality of Life

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KEYWORDS

• Asthma • Obesity • Youth • Quality of life

KEY POINTS

- The literature to date highlights existing gaps and provides several outlets for future research.
- The comorbid prevalence of obesity and asthma in youth is clearly an area requiring additional research.
- It is evident that health disparities exist for both asthma and obesity, especially in both Hispanic and African American youth.
- It is suggested that for these at-risk populations, weight-management and weight-reduction education should be included in every health-related visit.
- In addition, because of the negative effect of asthma and obesity on quality of life, tools such as the Pediatric Asthma Quality of Life Questionnaire should be used at every asthma evaluation visit and quality-of-life issues discussed, and incorporated into the asthma treatment plan.

BACKGROUND AND SIGNIFICANCE

Adult Obesity

The phenomenon of unhealthy weight status in the United States has captured the attention of health professionals and the public alike. Dramatic increases in body mass index (BMI; weight in kilograms divided by height in meters squared, ie, kg/m²)

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have been reported through public health surveillance programs such as the National Health and Nutrition Examination Survey (NHANES) starting in the 1970s to the 1990s for both adults and youth, making obesity and overweight common conditions in the United States. According to the most recent NHANES reports, using data from 2009 to 2010, age-adjusted obesity prevalence for adults is 35.7% and overweight prevalence for this group is 33.1%. In other words, 68.8% of adults in the United States have a BMI greater than is considered healthy.¹

The burden of high BMI is not equally distributed among all segments of the adult population. Analysis of NHANES trends from 1999 to 2010 suggests that significant increases in obesity prevalence have occurred for white, non-Hispanic black, and Mexican American men, and non-Hispanic black and Mexican American women.¹

Obesity in Youth

The obesity phenomenon in youth parallels that of adults in the United States. Childhood obesity has tripled in the last 4 decades. Current estimates are that 16.9% of youth between 2 and 19 years of age are obese (BMI ≥95th percentile for age) and 14.9% are overweight (BMI between the 85th and 94th percentile for age), which results in a total of 31.8% of youth in the United States meeting criteria for unhealthy weight.² As a child’s age increases, so does their likelihood of being overweight or obese, as shown in **Table 1**. Preschool children aged 2 to 5 years have lower odds (0.58 for males; 0.62 for females) of obesity compared with adolescents aged 12 to 19 years.² Similar to disparities in adults, the burden of excess weight is more prevalent in black and Hispanic youth, and in both genders, as shown in **Table 1**. For youth combined between 2 and 19 years old, males have a significantly higher prevalence of obesity (18.6%) than females (15%)²; this holds true for white but not Hispanic or non-Hispanic black youth.

Youth Obesity and Asthma

The prevalence of both asthma and obesity has increased dramatically over the last several decades, which has led to an increase in the number of studies examining the relationship between these 2 variables.^{3,4} However, despite the increased interest in these comorbidities, much of the research in this area has focused on adults.^{3,5–7}

A study examining the prevalence of obesity among adults, using data from the NHANES I, II, and III, showed that adults with asthma are far more likely to be obese than adults without asthma.³ In a retrospective study of 143 adult individuals aged 18 to 88 years, the prevalence of obesity increased along with increasing asthma severity in adults.⁵ Furthermore, the results showed that females with asthma were significantly more overweight than males, with a mean BMI of 35.9 versus 32.14

Table 1 Prevalence of high body mass index (BMI; ≥85th percentile) in United States youth: both genders combined for selected groups				
BMI ≥85th Percentile	2–19 Years Old	2–5 Years Old	6–11 Years Old	12–19 Years Old
All racial/ethnic groups	31.8	26.7	32.6	33.6
Non-Hispanic white	27.9	23.8	27.6	30.0
Mexican American	39.4	33.3	39	43.4
Non-Hispanic black	39.1	41.8	42.7	41.2

Data from Ogden CL, Carroll MD, Kit BK, et al. Prevalence of obesity and trends in body mass index among US children and adolescents, 1999–2010. JAMA 2012;307(5):483–90.

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