

Pearls

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Choose precise BMI charts to track youths' weight gain

Children and adolescents with a chronic mental illness face a much higher risk for obesity than do healthy youths. Use of one or more psychotropics associated with weight gain compounds common adolescent risk factors, including:

- increased eating
- reduced physical activity
- genetic, developmental, and environmental factors.

Use of body mass index (BMI) measurements based on sex and age in percentiles—instead of the usual height and weight—can help psychiatrists more accurately monitor psychotropic-induced weight gain and the effects of diet and exercise in youths.

Why sex/age percentiles?

Child/adolescent growth charts show considerable BMI variations based on sex and age. Simply recording height, weight and serial BMI changes—as is done for adults—does not adequately reflect deviations from expected growth patterns. Trying to determine medication effect by combining height and weight measurements of youths of differing sex and age is particularly misleading.

Consider these examples, based on the Centers for Disease Control and Prevention (CDC) growth chart for boys ages 2 to 20 years:

- A BMI of 18 kg/m² would place a 5-year-old boy at the 95th percentile (obese), an 8-year-boy at the 85th percentile (overweight), and a 16.5-year-old boy at the 10th percentile (underweight).

- An 8.5-year-old boy with a BMI of 16 kg/m² is in the 50th percentile, meaning his weight is

normal for his age and gender. To remain in the 50th percentile at age 16, his BMI must increase to 20.5 kg/m².

Available tools

CDC publishes sex- and age-specific growth charts (www.cdc.gov/growthcharts) that are easy to understand and use.

CDC considers children and adolescents with BMIs at or above the 95th percentile as “overweight,” and those between the 85th and 95th percentiles as “at risk for overweight.” Others use the terms “obese” and “overweight” for these same percentiles.

For greater precision, CDC also offers free Epi Info software downloads (www.cdc.gov/epi-info). This includes the NutStat anthropometric program, which calculates percentiles and Z scores—number of standard deviations from the mean—from CDC’s 2000 growth charts.

Using NutStat and patient age, clinicians can quickly calculate BMI, percentile, and Z score. Staff can enter height, weight, date of birth, and date of measurement into the module and generate these numbers for clinical decision making and documentation.

Suggested reading

Committee on Nutrition. American Academy of Pediatrics. Policy statement. Prevention of pediatric overweight and obesity. *Pediatrics* 2003; 112:424-30.

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