

Childhood Obesity

DEFINITION

Childhood obesity is the percentage of children entering kindergarten with a Body Mass Index (BMI) measured to be at or above the 95th percentile for gender and age. Body Mass Index (BMI) is calculated from a child's weight and height.¹ Children and youth with a BMI at or above the 95th percentile are considered to be obese. Children and youth with a BMI between the 85th and 95th percentiles are considered to be overweight or at risk for obesity.²

SIGNIFICANCE

Obesity is associated with type II diabetes, hypertension, heart disease, and other acute and chronic health problems.^{3,4} Overweight children are susceptible to depression, negative self-image and low self-esteem that can lead to social isolation and high-risk behaviors.^{5,6} Adolescents who are overweight have a 70% chance of becoming overweight or obese adults, with increased health risks and higher health care costs than those at a healthy weight.^{7,8}

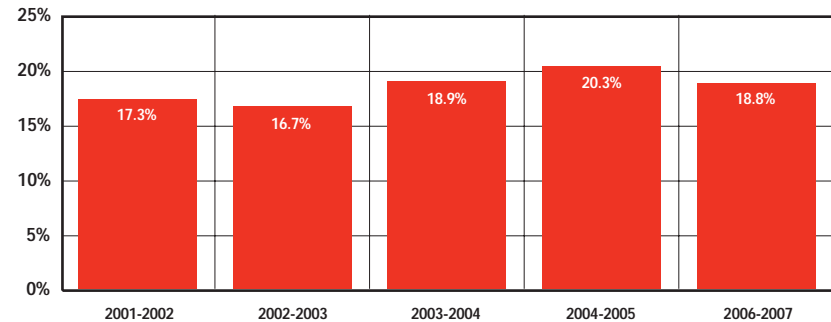
Weight gain occurs when more calories are consumed than are expended.⁹ On average, overweight children do not consume significantly more calories than their normal weight peers, but demonstrate a slow, consistent weight gain over several years

due to a relatively small imbalance between energy input and output.¹⁰ Most children become overweight through sedentary behavior, in combination with consumption of large portions of energy-dense foods.¹¹ Nutritional factors related to obesity include unhealthy food and beverage choices, skipping breakfast and large portion sizes of meals at home and in restaurants.^{12,13}

Environmental factors in childhood obesity include: lack of access to fresh produce in low-income neighborhoods, community designs that do not include venues for physical activity, few opportunities for physical activity at or after school, and few children walking or biking to school.^{14,15} Children who are breastfed as infants may be less likely to be obese when they are older than their peers.¹⁶ Children who have one or more overweight or obese parents are more likely to be overweight or obese themselves.^{17,18}

The *2003 National Survey of Children's Health* indicated that 31% of Rhode Island children ages 6-17 were either overweight (15%) or obese (16%).¹⁹ During the 2006-2007 school year, 17% of seventh graders in Rhode Island were obese.²⁰ In 2007, 11% of Rhode Island high school students were obese.²¹

Obesity among Children Entering Kindergarten, Rhode Island, 2001-2007*



Source: Immunization Program, Division of Family Health, Rhode Island Department of Health, School Years 2001-2002 through 2006-2007. *There are no data available for the 2005-2006 school year. Data are based on a sample of recorded heights and weights at kindergarten entry.

◆ Nearly one in five (18.8%) Rhode Island children entering kindergarten during school year 2006-2007 was obese, with a BMI at or greater than the 95th percentile.²² Obesity places children at risk for health problems throughout childhood and into adulthood.

Prevalence of Obesity Among U.S. Children and Adolescents, Ages 6-19, 1963-65 through 1999-2002

| AGE (YEARS) | 1963-1970 | 1971-1974 | 1976-1980 | 1988-1994 | 1999-2002 |
|-------------|-----------|-----------|-----------|-----------|-----------|
| 6-11 | 4% | 4% | 7% | 11% | 16% |
| 12-19 | 5% | 6% | 5% | 11% | 16% |

Source: National Center for Health Statistics. (2004). *Prevalence of overweight among children and adolescents: United State, 1999-2002*. Hyattsville, MD: U.S. Department of Health and Human Services. The National Health and Nutrition Examination Survey (NHANES) uses measured heights and weights to calculate a body mass index (BMI) for age.

◆ The prevalence of childhood obesity in the U.S. has increased among all children ages 6-19, but is highest among non-Hispanic Blacks and Mexican-Americans.²³

◆ In the U.S., non-Hispanic White adolescents who live in families with lower incomes have a greater prevalence of overweight than those who live in higher-income families. Income is not correlated with obesity for non-Hispanic Black or Mexican-American youth.²⁴

Physical Activity

- ◆ Regular physical activity can lower the risk of becoming overweight and developing related diseases. About half of all children in the U.S. ages 6-17 go without sufficient daily exercise.²⁵ There has been a 25% decrease in children's time spent playing and a 50% decline in unstructured outdoor activities over the past thirty years in the U.S.²⁶
- ◆ Rhode Island ranks worst nationally in the percentage of children and teens who exercise regularly. Three out of five (61%) children and youth ages 6 to 17 reported engaging in fewer than 5 days of vigorous physical activity in the past week, compared with 52% nationally.²⁷ In 2007, 42% of Rhode Island high school students (51% of males and 33% of females) reported being physically active for a total of at least 60 minutes per day, five days per week.²⁸
- ◆ Nationally, the weekly recommended amount of physical education is 150 minutes in elementary school and 225 minutes in middle school and high school.²⁹ The weekly recommended amount of physical education is 150 minutes in elementary school and 225 minutes in middle school and high school.²⁹ Rhode Island state mandates are much lower than these amounts (health education and physical education totaling 100 minutes per week for children in grades 1-12).³⁰ Four of five (79%) high school students reported attending physical education classes on one or more days in an average week in 2007.³¹

Nutrition Behavior Among Public High School Students, by Gender, Rhode Island, 2007

| | ALL | MALE | FEMALE |
|----------------------------------------------------------------------------|-----|------|--------|
| Ate fruit one or more times during the past 7 days | 86% | 83% | 88% |
| Ate fruits and vegetables 5 or more times per day during the past 7 days | 19% | 20% | 18% |
| Drank a container of soda one or more times per day during the past 7 days | 25% | 30% | 20% |
| Drank 3 or more glasses per day of milk during the past 7 days | 16% | 20% | 12% |

Source: 2007 Rhode Island Youth Behavior Survey, Rhode Island Department of Health, Center for Health Data and Analysis.

Sedentary Behavior

- ◆ Screen time (including television, video games, computer and internet time) may increase obesity in the following ways. Young people may forgo physical activity in favor of sedentary activity. Advertising found in the media may increase the child's desire for and consumption of snack foods and/or sweetened beverages. Screen time may be accompanied by snacking, leading to higher caloric intake.³²

Activities of Rhode Island Public School Students, 2006-2007

| | ELEMENTARY | MIDDLE | HIGH |
|----------------------------------------------------------------------------------------|------------|--------|------|
| Played computer/video games at home for 3 hours or more* | 18% | 16% | 16% |
| Watched TV at home for 3 hours or more* | 28% | 30% | 28% |
| Used a computer at home for school work or educational activities for 1 or more hours* | 16% | 21% | 30% |
| Attended after school/weekend intramural or interscholastic sports through school** | 34% | 37% | 38% |
| Attended youth sports or recreation programs in the community** | 55% | 43% | 23% |

*Refers to the average school day **Refers to the past year

Source: Felner, R. (2007). Rhode Island SALT Survey Reports. Rockland, IL: National Center on Public Education and Prevention. Retrieved from Information Works at www.infoworks.ride.uri.edu. Elementary School includes students in grades 4-6. Middle School includes students in grades 5-8. High School includes students in grades 9-12.

References

- ¹² BMI – Body Mass Index: BMI for children and teens. Retrieved January 10, 2008 from <http://www.cdc.gov/>
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- ^{7,18,23} Office of the U.S. Surgeon General. (2001). *The Surgeon General's call to action to prevent and decrease overweight and obesity.* Rockville, MD: U.S. Department of Health and Human Services.
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(continued on page 153)