

THE BURDEN OF OVERWEIGHT AND OBESITY IN RHODE ISLAND

2010



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INTRODUCTION

The Rhode Island Department of Health (HEALTH) Initiative for a Healthy Weight (IHW) has prepared this report to highlight the prevalence of overweight and obesity among Rhode Islanders. The Burden of Overweight and Obesity in Rhode Island 2010 data book is a collection of data from a variety of sources through 2008 that include: the 2007 Behavioral Risk Factor Surveillance System (BRFSS), the 2003-2008 Special Supplements for Women Infants and Children (WIC), 2008 Pediatric Nutrition Surveillance System, the 2007 Youth Risk Behavior Surveillance System (YRBS), the 2007 National Survey of Children's Health (NSCH), and the 2008 Immunization Program data. This data book intends to share ways in which RI has measured progress and information about overweight and obesity-related conditions.

This report describes the impact of overweight and obesity in RI including risk factors, trends, disparities, and comparisons between RI and the US. Data presented in this report will support the efforts of IHW and partners such as healthcare providers, community-based organizations, employers, schools, local governments, and other state agencies to develop and implement programs, policies, and projects that will decrease obesity and related chronic diseases.



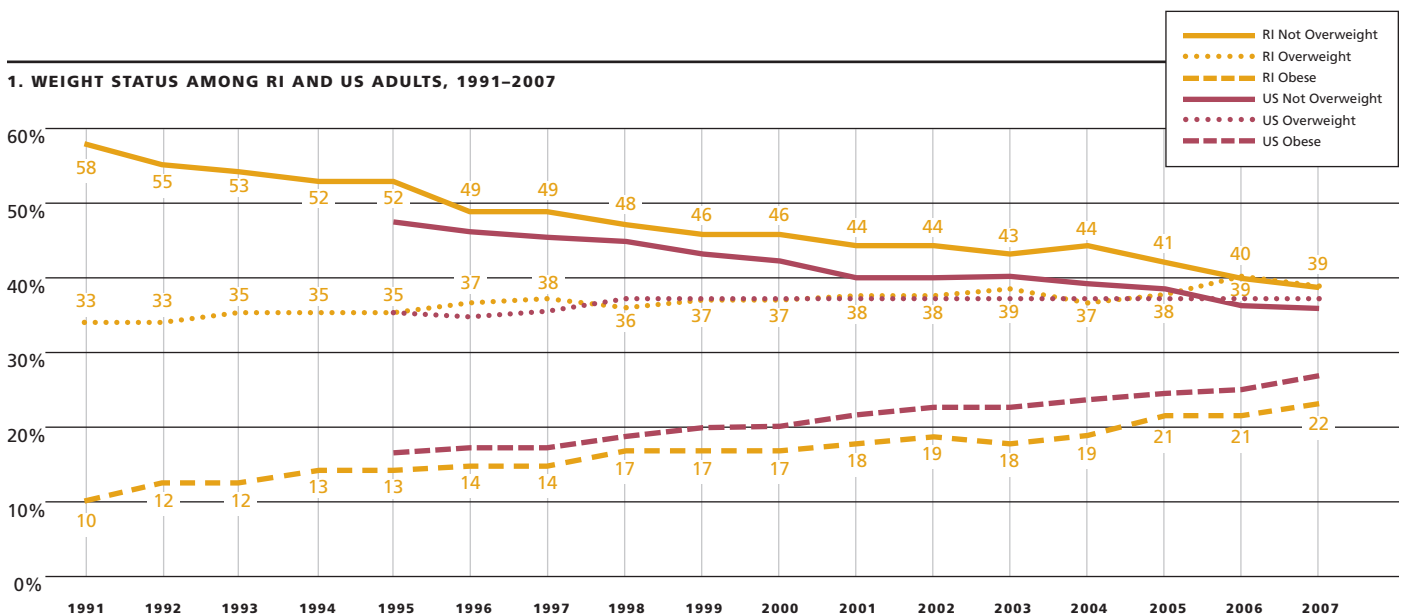


OVERWEIGHT AND OBESITY AMONG RHODE ISLAND ADULTS

Overweight and obesity data for RI adults comes from the RI BRFSS. BRFSS data were collected through a telephone survey of a representative sample of Rhode Islanders who self-reported height, weight, demographics, and behavioral characteristics about diet and physical activity. For adults, overweight and obesity were determined using weight and height to calculate the Body Mass Index (BMI) by using weight in pounds divided by height in meters squared.¹ Since individuals self-reported their weight and height, true prevalence of overweight and obesity were likely underestimated.

The 2007 RI BRFSS data indicated that 62% of RI adults age 20 and older were either overweight (40%) or obese (22%). While the prevalence of overweight adults in RI was slightly higher than the national average (37%), the prevalence of obese adults in RI was lower than the national average (26%).²

The proportion of adults who were overweight and obese continued to rise both in RI and across the United States. From 1991 to 2007, the percentage of overweight RI adults rose from 33% to 39% and the percentage of obese adults has more than doubled from 10% to 22%.



Data Sources: BRFSS, Rhode Island Department of Health, and Centers for Disease Control and Prevention, 1991-2007

Health Conditions Associated with Overweight and Obesity

Research has linked overweight and obesity to chronic health conditions such as diabetes, heart disease, stroke, and risk factors associated with those conditions such as high blood pressure and high cholesterol. As was seen nationally, high blood pressure, high cholesterol, and diabetes were associated with weight status among RI adults. High blood pressure was more common among obese Rhode Islanders (44% of men; 42% of women) than non-obese Rhode Islanders (25% of men; 23% of women). Obese men and women were more likely to report high cholesterol (53% and 48%, respectively), compared to their non-obese counterparts (38% and 31%, respectively). Sixteen percent of obese men and 15% of obese women have diabetes compared to 5% of men and 4% of women who were not overweight. Additionally, asthma was more common among obese men and women (11% and 22%, respectively), compared to men and women who were normal weight (5% and 12%, respectively).

Disparities in Overweight and Obesity among Rhode Island Adults

While overweight and obesity affect the entire population, certain gender, racial/ethnic, residential, income, and educational population groups were disproportionately affected.

Gender

Disparities existed by gender. The prevalence of overweight and obesity combined was more prevalent among men (74%)

than women (51%). Fifty percent of men, age 20 and older, were overweight compared to 29% of women. However, the prevalence of obesity was similar for men (22%) and women (21%).

Race/Ethnicity

In RI, data demonstrated that the prevalence of overweight and obesity across racial/ethnic groups was similar. Sixty-five percent of both non-Hispanic Black and Hispanic adults were overweight or obese, compared to 61% of non-Hispanic White adults. Hispanic adults had a higher prevalence of being overweight (44%), while non-Hispanic Black adults had the highest prevalence of obesity (26%).

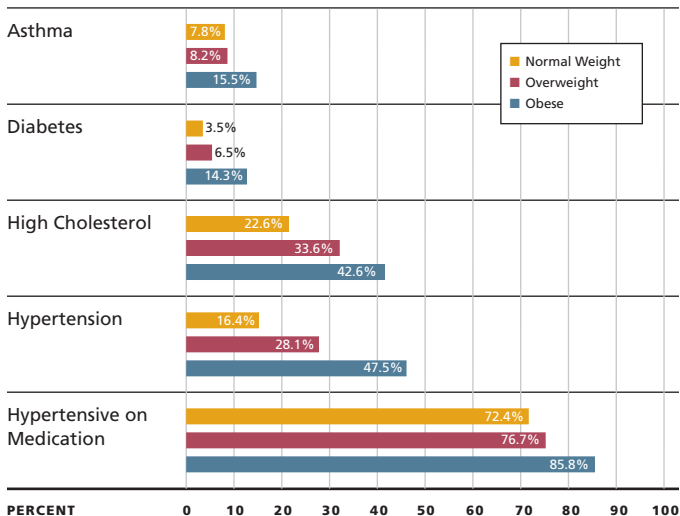
Gender and Race/Ethnicity

Differences in overweight and obesity among men across racial/ethnic categories were not significant. However, large disparities existed among RI women of different racial/ethnic groups. Non-Hispanic Black women (37%) and Hispanic women (29%) were more likely to be obese than non-Hispanic White women (21%).

Residence

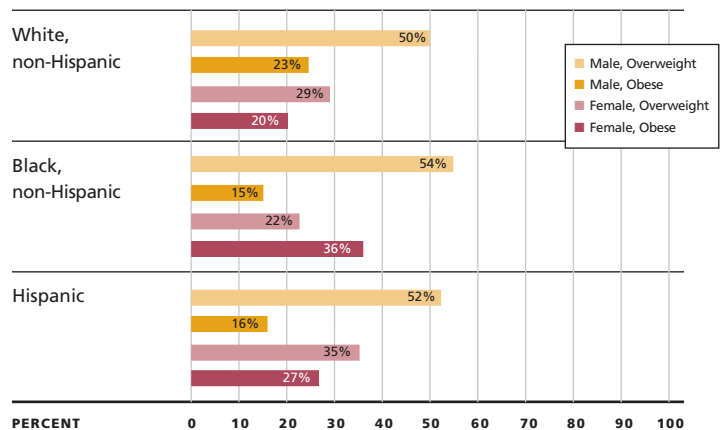
According to the 2000 Census, cities where the child poverty level is greater than 15% are designated as core cities. RI currently has six core cities: Central Falls, Newport, Pawtucket, Providence, West Warwick, and Woonsocket. In RI, there was a slight difference in prevalence of overweight and obesity between women residing in core and non-core cities. Data indicated there were more overweight (33%) and obese (26%) women residing in core cities compared to overweight (28%) and obese (21%) women in non-core cities.

2. PREVALENCE OF HEALTH CONDITIONS BY WEIGHT STATUS



Data Source: BRFSS 2007, Rhode Island Department of Health, and Centers for Disease Control and Prevention

3. PROPORTION OF OVERWEIGHT AND OBESE BY GENDER AND RACE/ETHNICITY



Data Source: BRFSS 2007, Rhode Island Department of Health, and Centers for Disease Control and Prevention

Income

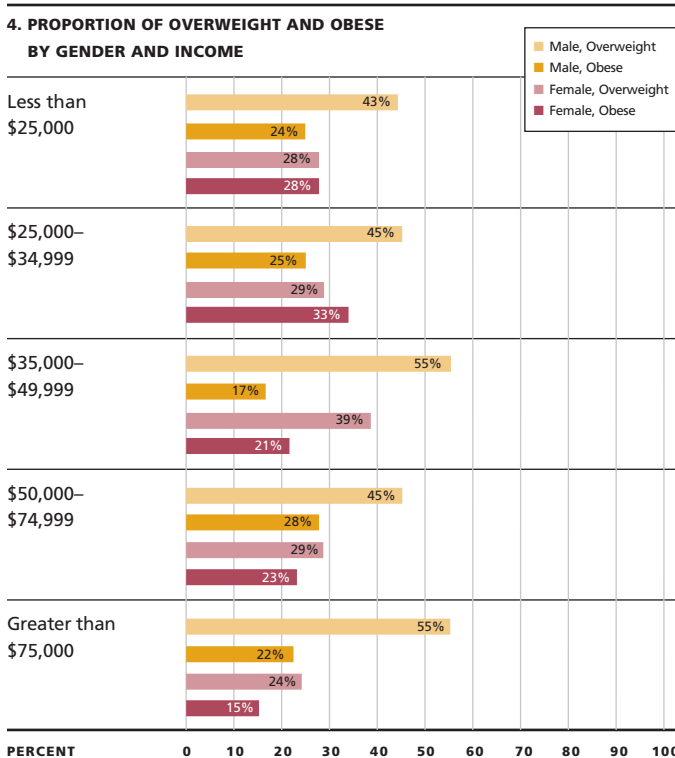
The prevalence of overweight and obesity varied by income among RI women, but did not among men. Sixty percent of women with less than a \$50,000 annual household income were overweight or obese compared with 43% of women with more than a \$50,000 annual household income. More markedly, 30% of women with less than a \$25,000 annual household income were obese versus 18% of women with more than a \$50,000 annual household income.

Education

The prevalence of overweight and obesity vary by education level among RI women, but not among men. Among women, there was an inverse correlation between obesity and education, with the prevalence of obesity highest among those with less than a high school diploma. Twenty-nine percent of women with less than a college education were obese compared to 17% of women who graduated college. A similar relationship was not observed between weight and education among overweight women in RI. However, women who graduated college had the lowest prevalence of overweight.

Age

The prevalence of overweight and obesity varied by age among RI men. The prevalence of obesity was highest in adults between the ages of 45 and 64 years (29%) and lowest among adults age 65 and older (20%).



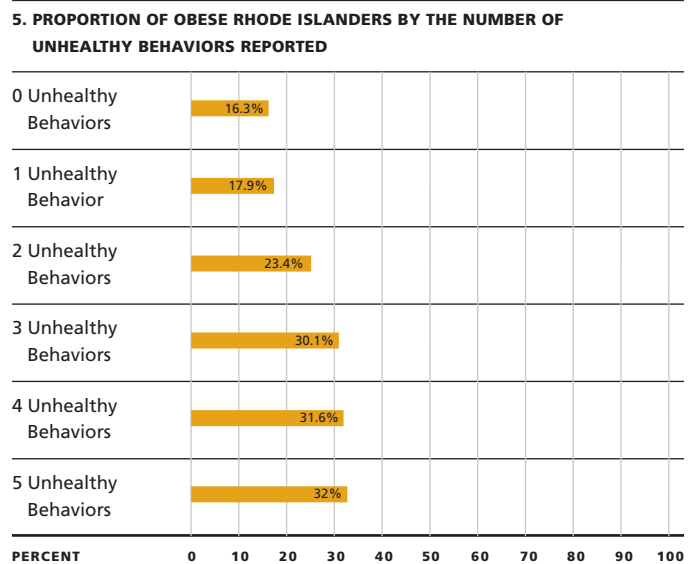
Data Source: BRFSS 2007, Rhode Island Department of Health, and Centers for Disease Control and Prevention

Weight-Associated Behaviors Among Rhode Island Adults

The rapid increase in the prevalence of overweight and obesity among adults over the last few decades can be attributed to changes in eating habits and activity levels. The five behaviors, identified by the Centers for Disease Control and Prevention (CDC), have generally been linked to overweight and obesity:

- **Fruit and Vegetable Consumption:** Unhealthy behavior was defined as eating fewer than five servings of fruits and vegetables per day.
- **Sugar-Sweetened Beverage Consumption:** Unhealthy behavior was defined as drinking sugar-sweetened beverages more than once a day.
- **Fast Food Consumption:** Unhealthy behavior was defined as eating fast food more than once a week.
- **Physical Activity:** Unhealthy behavior was defined as participating in fewer than 30-minutes of moderate physical activity, or 20-minutes of vigorous physical activity, five days a week.
- **Screen Time:** Unhealthy behavior was defined as spending more than three hours a day in front of the television (TV) or more than two hours of computer or video game use.

Data on these weight-related behaviors came from the 2007 BRFSS.



Data Source: BRFSS 2007, Rhode Island Department of Health, and Centers for Disease Control and Prevention

Overall, 26% of Rhode Islanders consumed five or more servings of fruits and vegetables per day. Seventy-two percent of Rhode Islanders consumed less than one sugar-sweetened beverage per day and 43% consumed fast food less than once per week. Only half of Rhode Islanders reported engaging in moderate or vigorous physical activity at least five days a week, and 40% watched fewer than two hours of TV a day.

RI adults who reported more unhealthy behaviors, including consuming fast food, sugar-sweetened beverages, high levels of screen time, and insufficient physical activity were more likely to be obese. As the number of unhealthy behaviors increased, the percentage of obese Rhode Islanders in that group increased. Thirty-two percent of individuals who reported all five behaviors were obese compared to 16% of individuals who did not report any of these unhealthy behaviors.

Disparities in Weight-Associated Behaviors Among Rhode Island Adults

Data showed that disparities existed in weight-associated behaviors among the different categories of gender, race/ethnicity, education, income, and residency.

Fruit and Vegetable Consumption

In RI, disparities existed for fruit and vegetable consumption across gender and racial/ethnic groups among men, but not for women. Men were less likely to eat five fruits and vegetables a day (20%) compared to women (30%). Non-Hispanic Black men were more likely to eat five or more fruits and vegetables a day (39%) followed by Hispanic men (26%) and non-Hispanic White men (19%).

Men and women with less than a college education (21%) were less likely to eat five fruits and vegetables a day compared to those with a college degree (32%). Geographic data indicated that women residing in the core cities were less likely to consume five fruits and vegetables a day compared to those women living in non-core cities.



Sugar-Sweetened Beverage Consumption

Thirty-four percent of men reported drinking one or more sugar-sweetened beverages compared to women (22%). Overweight men were more likely to consume one or more sugar-sweetened beverages a day (37%) than overweight women (20%).

Hispanic men were more likely to consume one or more sugar-sweetened beverages per day (55%) compared to 36% of non-Hispanic Black men and 32% of non-Hispanic White men. Non-Hispanic Black women (49%) and Hispanic women (43%) drank one or more sugar-sweetened beverage per day than non-Hispanic White women (19%).

Sugar-sweetened beverage consumption was higher among men and women with lower income and lower education levels. Adults between the ages of 20 and 29 years were more likely to consume one or more sugar-sweetened beverages per day than older adult populations. Thirty-two percent of women who lived in core cities drank one or more sugar-sweetened beverages per day compared to women living in non-core cities (18%).

Fast Food Consumption

Eating fast food more than once a week was more frequently reported by men (61%) than women (53%). Hispanics overall had the highest fast food consumption (71%). Sixty-two percent of Hispanic men and women reported eating fast food more than once a week compared to 62% and 53% of non-Hispanic White men and women, respectively, and 44% and 57% of non-Hispanic black men and women.

For men, fast food intake increased as annual household income increased. Men (73%) and women (67%) between the ages of 30 and 44 years reported eating more fast food one or more times per week than any other adult populations. Also, fast food consumption was higher among men in non-core cities (63% compared to 54%).

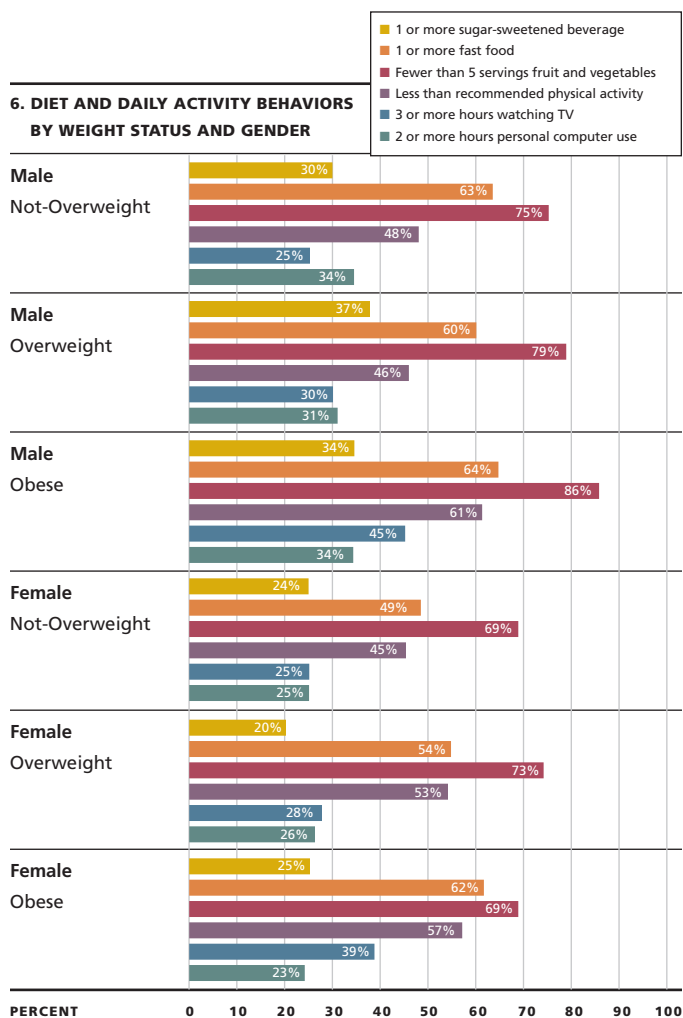
Physical Activity

Similar to rest of the US, 50% of RI men and women did not meet the physical activity requirements that included moderate-to-vigorous activity at least five days per week. Large disparities in physical activity existed among race/ethnic groups for women, with 52% of non-Hispanic White women reporting being physically active, compared to 38% of non-Hispanic Black women and 33% of Hispanic women. Physical activity increased as income increased among men and women. The percentage of women who reported being physically active increased with higher education. Adults living in the core cities were less likely to report physical activity than those who resided in non-core cities.

Screen Time

In RI, disparities were associated with screen time by gender, race/ethnicity, education, income, and residency. Women reported watching less TV than men, and were more likely to report TV viewing of three hours or fewer per day (44%) compared to men (35%). The prevalence of TV time levels was higher among adults with low income and low education levels. Elderly adults, age 65 and older were also more likely to report watching three or more hours per day of television than those from younger age groups.

Personal computer (PC) or video game use was lower among adults than TV watching. PC or video game use was lower among women than men: 52% of women reported one or fewer hours per day compared to 45% of men. For both men and women, PC or video game use was lower among Hispanics (21%) than non-Hispanic Black (36%) and non-Hispanic White (29%) adults. PC or video game use was lower for adults with lower education, lower income, and for women living in a core city.



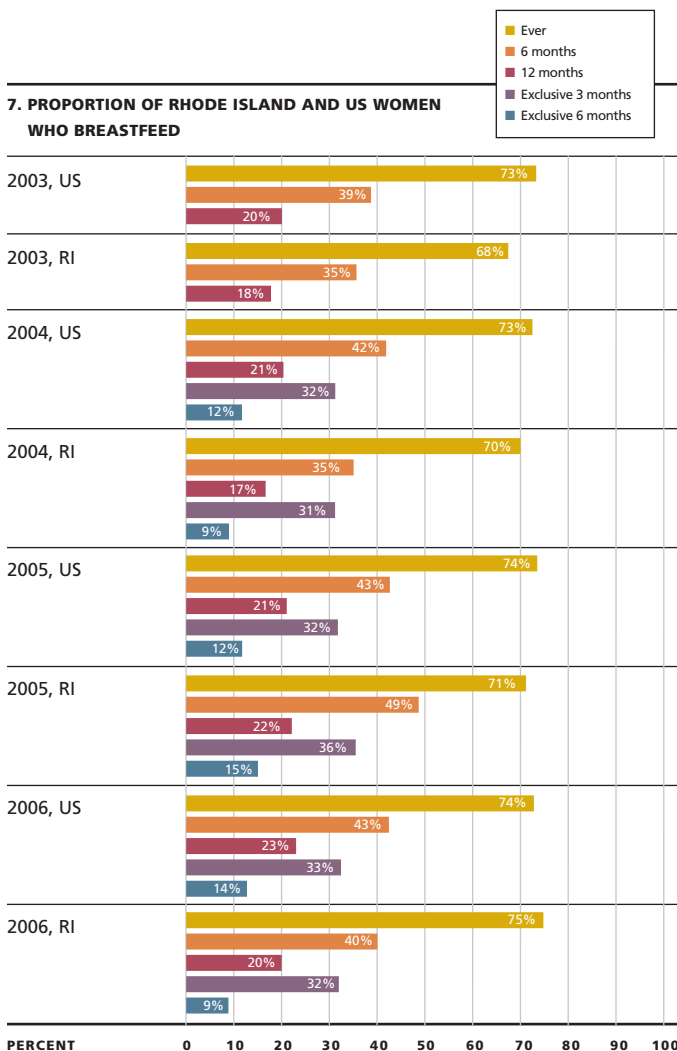
Data Source: BRFSS 2007, Rhode Island Department of Health, and Centers for Disease Control and Prevention

Breastfeeding among Rhode Island Women

Breastfeeding has many health benefits for both the mother and the baby. Mothers who breastfed have a lower risk of some health problems, including breast cancer and type 2 diabetes.³ Breastfeeding during infancy protects children against the later risk of obesity⁴, and is one of the four sentinel factors described by the CDC in obesity prevention. The American Academy of Pediatrics recommends exclusive breastfeeding for the first six months of life, and continued complimentary breastfeeding thereafter for twelve months or as long as the mother and baby wish.⁵ Breastfeeding initiation and duration continued to increase among RI women, even though the state fell below the national average, and

well below the Healthy People 2010 (HP 2010) target goals. In 2006, 75% of new mothers in RI initiated breastfeeding, 40% were still breastfeeding at 6 months postpartum, and 20% were still breastfeeding at 12 months postpartum. RI women were more likely to initiate breast-feeding compared with 74% of women in the US as a whole, but were less likely than the national average (43% and 23% respectively) to be breastfeeding at 6 and 12 months.

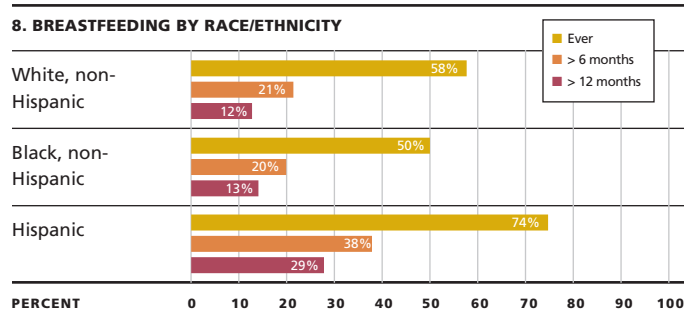
The new information available for breastfeeding was in regards to the “exclusive” breastfeeding at three and six months postpartum, meaning that no other food substances were fed in addition to or instead of breast milk at that time. In RI, 32% of women reported exclusively breastfeeding at three months postpartum compared to the HP 2010 target of 60%. Nine percent of women breastfed exclusively at six months postpartum compared to the HP 2010 target of 25%. While the proportion of US women exclusively breastfeeding has increased in recent years, the proportion for RI has slightly decreased.



Data Source: United States Pediatric Nutrition Surveillance System, 2003–2008

Racial/Ethnic Disparities in Breastfeeding

Data indicated some differences in breastfeeding between racial/ethnic groups. Based on the national Pediatric Nutrition Surveillance System (PedNSS), which includes data on Rhode Island families, Hispanic women were more likely to breastfeed with 74% initiating breastfeeding, 38% continuing at 6 months, and 29% continuing at 12 months postpartum. Non-Hispanic White women were more likely to initiate breastfeeding (58%) than non-Hispanic Black women (50%) but these groups of women were very similar in their likelihood to continue breastfeeding at 6 and 12 months postpartum.



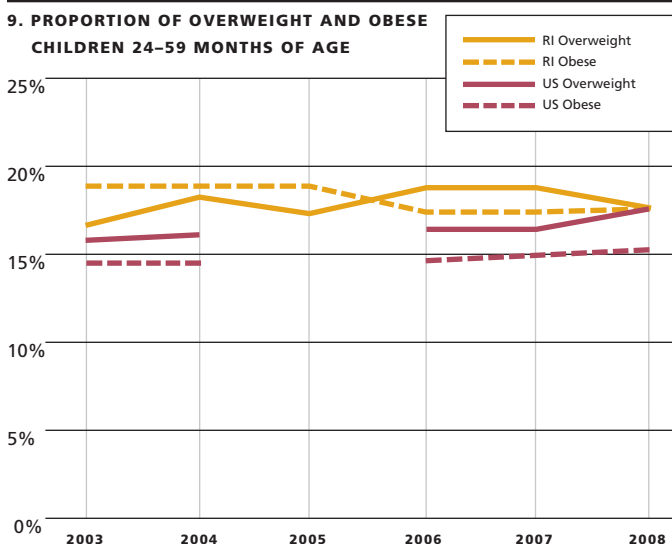
Data Source: United States Pediatric Nutrition Surveillance System, 2008



OVERWEIGHT AND OBESITY AMONG RHODE ISLAND CHILDREN

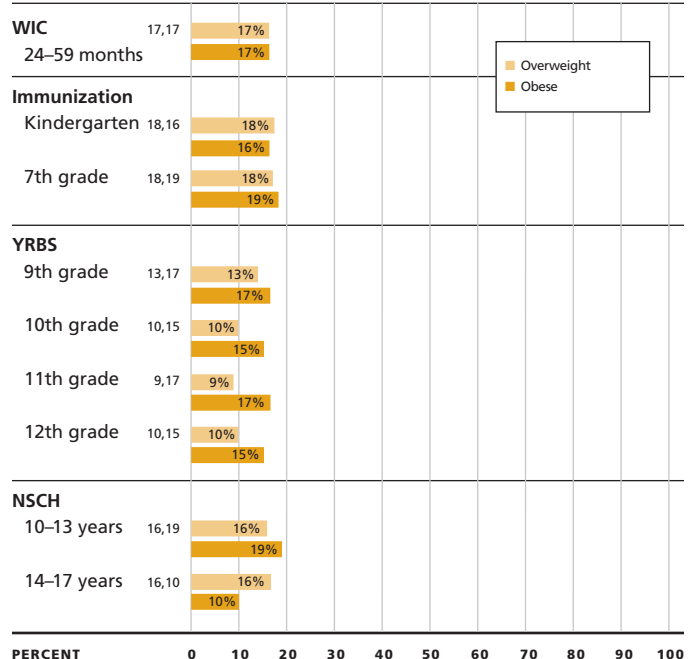
The weight data for children came from four sources, because no single data source provided information across all child age groups:

- 2003–2007 National Survey of Children’s Health (Children between the ages of 10 and 17 years)
- 2003–2008 Special Supplement Program for Women, Infants, and Children (WIC) Program (Children between the ages of 24 to 59 months)
- 2008 Immunization Program Data (kindergarten and seventh grade students)
- 2007 Youth Risk Behavior Survey (high school students)



Data Sources: Rhode Island Special Supplement for Women Infants and Children, 2003–2008; United States Pediatric Nutrition Surveillance System, 2003–2006

10. PREVALENCE OF OVERWEIGHT AND OBESITY BY AGE/SCHOOL GRADE AND BY DATA SOURCE



Data Sources: Rhode Island Special Supplement for Women Infants and Children, 2003–2008; Immunization Program data, 2008; Rhode Island Youth Risk Behavior Survey, 2007; National Survey of Children’s Health, 2003–2007

Please note that comparison of data from different sources can be problematic due to dissimilar methods in data collection. See Appendix for a description of data sources used in this report.

According to the WIC data, the proportions of overweight and obese young children between the ages of 24 and 59 months were almost unchanged over the last six years. More than one-third (34%) of young children were either overweight or obese. Immunization Program data showed that among kindergarteners 18% were overweight and 16% were obese, while a slightly higher prevalence was found among seventh graders (18% overweight; 19% obese). YRBS data showed that 16% of high school students were overweight and 11% were obese.

Disparities in Overweight and Obesity Among Rhode Island Children

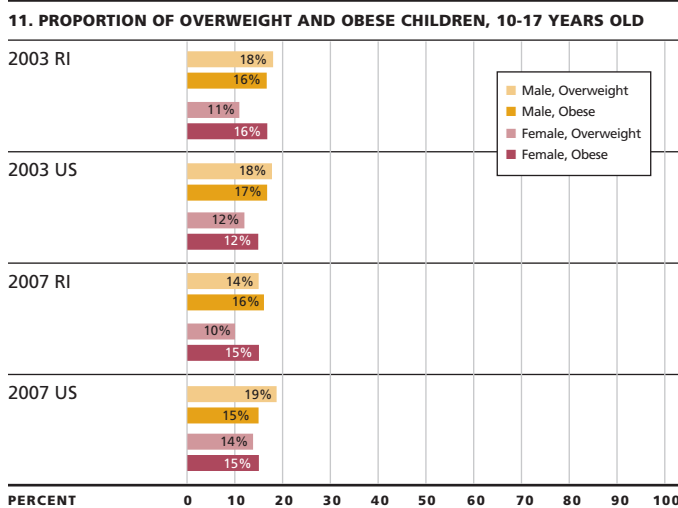
Age and Gender

Across the varied data sets, the proportion of overweight and obese children age 18 and younger has remained relatively steady between 2003 and 2008 in RI and as an average across the US. However, boys were found to be at higher risk for overweight and obesity than girls.

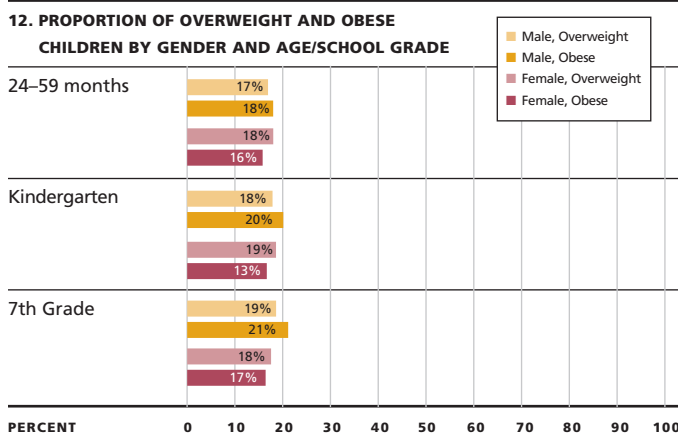
Among high schoolers, 14% of boys, were obese compared to 7% of girls, but the percentage of overweight boys and girls was similar (16%). Overall, RI WIC children, between the ages of 24 and 59 months, had similar proportions of overweight or obese boys and girls. Obesity among boys was more pronounced than among girls for kindergarteners (20% versus 13%, respectively) and seventh graders (21% and 17%, respectively).

Race/Ethnicity

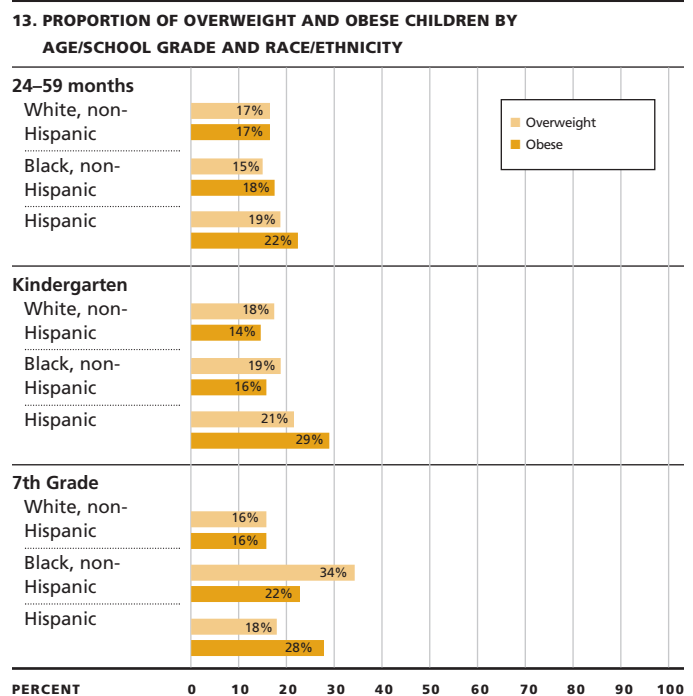
In RI, disparities by race/ethnicity in overweight and obesity exist, as well. Of the children participating in WIC, Hispanic children were more likely to be obese (22%) compared to non-Hispanic Black (18%) and non-Hispanic White (17%) children. Among 7th grade students, 28% of Hispanic students and 22% Non-Hispanic Black students were obese compared with 16% of non-Hispanic White students.



Data Source: National Survey of Children's Health, 2003–2007



Data Source: Rhode Island Special Supplement for Women Infants and Children, 2003–2008; Immunization Program data, 2008



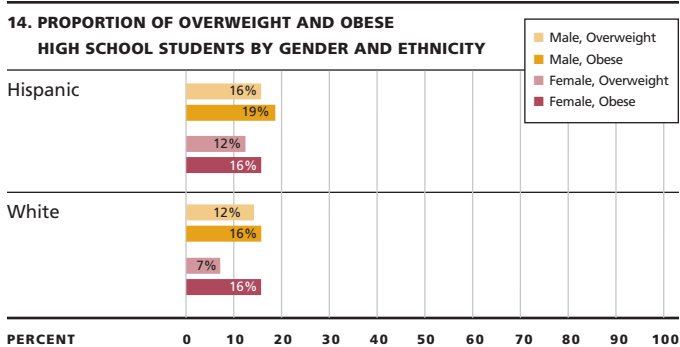
Data Source: Rhode Island Special Supplement for Women Infants and Children, 2007; Immunization Program data, 2008

Gender and Race/Ethnicity

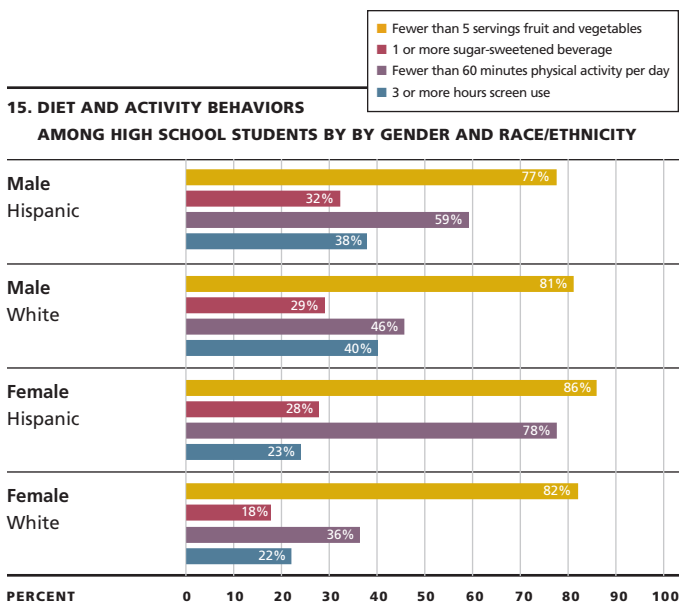
Among high school boys, Hispanic students were more likely to be overweight (19%) or obese (16%) than non-Hispanic White students (16% and 13%, respectively). For high school girls, overweight percentages were the same among Hispanic and non-Hispanic White students (16%). However, the proportion of Hispanic students (12%) was slightly higher than for non-Hispanic White students (7%).

Residence

Children enrolled in WIC who lived in core cities were more likely to be obese compared to children in non-core cities. However, residency did not affect overweight.



Data Source: Rhode Island Youth Risk Behavior Survey 2007



Data Source: Rhode Island Youth Risk Behaviors Survey, 2007

Weight-Associated Behaviors Among Rhode Island Children

As with adults, the risk of overweight and obesity in children increased when they engaged in unhealthy weight-associated behaviors. For high school students, there were disparities associated with unhealthy behaviors by gender, race/ethnicity, education, income, and residency. A majority of high school students reported inadequate fruit and vegetable intake, high sugar-sweetened beverage consumption, less than adequate physical activity, and excessive screen time.

Disparities in Weight-Associated Behaviors in Rhode Island Children

Fruit and Vegetable Consumption

Of all the weight-associated behaviors reported, inadequate fruit and vegetable consumption was by far the most common. Most high school students (81%) reported consuming fewer than five servings of fruits and vegetables per day over the last seven days. This level was consistently high across genders and racial/ethnic groups.

Sugar-Sweetened Beverage Consumption

A quarter of high school students reported consuming a can, bottle, glass of soda, or other sugar-sweetened beverages one or more times per day over the past seven days. Among high school students, boys were more likely to drink one or more servings of sugar-sweetened beverages (30%) than girls (20%). Hispanic girls were also more likely to drink sugar-sweetened beverages (28%) compared to non-Hispanic White girls (18%).

Physical Activity

Forty-two percent of students reported getting fewer than 60 minutes of physical activity per day on 5 or more of the past 7 days. In general, girls were less likely to report that level of physical activity. Hispanic girls were less likely to meet physical activity levels (78%) than non-Hispanic White girls (64%). In addition, Hispanic boys were more likely to get inadequate physical activity (59%) than non-Hispanic White boys (46%).

Screen Time

Twenty-seven percent high school students watched three or more hours of TV during an average school day. Hispanic students were more likely to report this high level of TV watching (39%) compared with non-Hispanic students (23%), but no significant differences were found between boys and girls.

APPENDIX

Data Source Descriptions

National Survey of Children's Health (NSCH): Data are collected over landline telephones to households with children age 18 and younger. Households were called at random. A child was randomly selected from all children living at the residence, and questions about that child were answered by a parent or guardian who knew about the health and healthcare of that child. BMI was calculated based on reports of the child's height and weight by a parent or guardian, and only includes those children between the ages of 10 and 17 years. Only data for children between the ages of 10 and 17 years were found to be reliable, and were included in this report.

Special Supplement Program for Women, Infants, and Children (WIC): WIC collected height and weight data for all participating children, and assessed aggregate data for children between the ages of 24 and 59 months. Gender, residence, and language spoken by the parent were also available.

Immunization Program Data: Height and weight were recorded for a selected set of kindergarten and seventh grade students from school health forms. Comparisons of data from WIC and Immunization data are not entirely appropriate since differences in the groups sampled and methods used could account for differences in the data.

Youth Risk Behavior Survey (YRBS): High school students were represented by results of the YRBS, for which students self-report their height, weight, and behaviors. BMI and weight categories were calculated based on the self-reported data just as BRFSS data was used for adult data. Due to the limited number of students surveyed, racial/ethnic breakdowns were only available to Hispanic and non-Hispanic White students.

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